S/137/62/000/006/147/163
A057/A101

Liquid cyanidation of stainless chromium steels

ment at temperatures from -80°C to -100°C and holding time 30 minutes; 3) tempering in oil at 180°C and holding time 2 hrs. The maximum values of hardness of the C layers were obtained after the 1,050°C hardening. Corrosion tests showed that cyanided steel Kh17N2 after hardening at 1,050°C does not corrode in distilled water during 2 months, while samples of 1Kh13 steel are insufficiently resistant to corrosion after this hardening. Parts of cyanided details which are not treated mechanically after cyanidation can be well protected from corrosion by electropolishing; steels with 1% carbon are insufficiently resistant against corrosion after cyanidation.

A. Babayeva

[Abstracter's note: Complete translation]

Card 2/2

ACC NR: AP6021709 (N) SOURCE CODE: UR/0148/66/000/003/0153/0156

31
29
B

AUTHOR: Sumarokov, N. V.; Makarova, L. Ye.

ORG: Perm' Polytechnic Institute (Permskiy politekhnicheskiy institut)

TITLE: Phase composition, structure and mechanism of formation of the cyanided layer on stainless chromium steels

SOURCE: IVUZ. Chernaya metallurgiya, no. 3, 1966, 153-156

TOPIC TAGS: stainless chromium steel, cyanidation, phase composition, carbide, nitride / / Kh17N2 stainless chromium steel, 1Kh13 stainless chromium steel

ABSTRACT: This is a continuation of previous investigations (N. V. Sumarokov, Ye. N. Busalayeva. Sb. otraslevykh laboratoriy Permskogo SNKh (Mashinostroyeniye), 1961; and three other investigations) with the difference that it presents additional findings obtained by metallographic, radiographic and chemical examination of the cyanided layer on Kh17N2 and 1Kh13 stainless chromium steels. Thus, it is established that the cyanided layer contains a large number of excess carbides which segregate during nitrogen case-hardening; the outermost part of the layer includes a readily etchable "dark zone" which is free of excess carbides,

Card 1/2 UDC: 669.26:621.785.666:620.181:620.183

L 41012-66

ACC NR: AP6021709

apparently because of its high content of nitrogen. Phase analysis revealed that the cyaniding of Kh17N2 steel leads to the formation of not only chromium carbides but also concomitantly, chromium nitrides, i.e. the result is not a two-phase structure but a three-phase structure (solid solution, carbides, nitrides). The same may be said of the cyanided layer of Kh13 steel. As for the mechanism of formation of this layer, it is noteworthy that the zone where the carbide $Cr_{23}C_6$ is replaced with the carbide Cr_7C_3 advances toward the interior of the layer with increasing time of cyaniding; the depth of the carbide-free "dark zone" also increases. This indicates that increasing absorption of nitrogen by the layer leads to the decomposition of the previously formed carbides Cr_7C_3 and the formation of the nitride CrN; then the released carbon diffuses into the interior of the layer, where it forms new portions of carbide, thus increasing the depth of the layer. Orig. art. has: 4 figures.

SUB CODE: 11, 20, 13, 07/ SUBM DATE: 30Oct64/ ORIG REF: 008/

Card 2/2 hs

SUMARKOV, O. M., MAL'CHENOK, V. O.

"Possibilities in Applying Oscillatory Processes in Drilling"

[illegible] Methods and Techniques of Geological Exploration)
[illegible] (Source: [illegible] number I)

MAL'CHENOK, V.O.; SUMAROKOV, O.M.

Prospects for developing the vibration drilling method. Trudy VITR no.1:389-412 '58. (MIRA 12:1)
(Boring)

SUMAROKOV, O.M.; UTKIN, I.A.; MAL'CHENOK, V.S.

Combined vibrator for percussive rotary drilling. Biul.nauch.-tekh.inform VIMS no.1:97-98 '63. (MIRA 18:2)

SUMAROKOV, O.M.; UTKIN, I.A.; MAL'CHENOK, V.O.

Sectional magnitostriction vibrator for percussive-rotary drilling. Biul. nauch.-tekh. inform. VIMS no.2:76-7. '63. (MIRA 18:2)

SUMAROKOV, S.B.

AKULININ, T.Ye.; SUMAROKOV, S.B. (Saratov)

Analysis of postoperative mortality in acute appendicitis. Klin. med. 32 no.11:69 N '54. (MLRA 8:1)

1. Iz kliniki gospital'noy khirurgii (dir.-prof. A.N.Spiridonov) Saratovskogo meditsinskogo instituta.
(APPENDICITIS, surgery
postop. mortal.)

SUMAROKOV, S.B.

Purulent pancreatic pseudocyst. Sov.med. 20 no.6:74-75 '56.
(MLRA 9:9)

1. Iz gospital'noy khirurgicheskoy kliniki pediatricheskogo fakul'teta (zav. dotsent B.A.Nikitin) Saratovskogo meditsinskogo instituta.

(PANCREAS, cysts,
purulent pseudocyst (Rus))
(CYSTS,
pancreas, purulent pseudocyst (Rus))

SUMAROKOV, S.B.

Case of early surgical treatment in extensive deep burn. Ortop., travm. i protez. 21 no.11:70-72 '60. (MIRA 14:4)
(BURNS AND SCALDS)

KUZNETSOV, Yu.A.; MAKAROV, A.A.; MELENT'YEV, L.A.; MERENKOV, A.P.; NEKRASOV, A.S.; TSVETKOV, N.I.; KUZNETSOV, Yu.A.; MAKAROVA, A.S.; KARPOV, V.G.; MANSUROV, Yu.V.; SYROV, Yu.P.; KHAILEV, L.S.; TSVETKOVA, L.A.; VOYTSEKHOVSKAYA, G.V.; YEFIMOV, N.T.; LEVENTAL', G.B.; KHANAYEV, V.A.; BELYAYEV, L.S.; GAN[illegible], A.Z.; KARTELEV, B.G.; KRUMM, L.A.; LIOPO, T.N.; SVIRKUNOV, N.N.; DRUZHININ, I.P.; KONOVALENKO, Z.P.; KHAN'YANOVA, N.V.; SHVARTSBERG, A.I.; NIKONOV, A.P.; STARIKOV, L.A.; POPYRIN, L.S.; PSHENICHNOV, N.N.; TROSHINA, G.M.; CHEL'TSOV, M.B.; SVETLOV, K.S.; SUMAROKOV, S.V.; TAKAYSHVILI, M.K.; TOLMACHEVA, N.I.; KHASILEV, V.Ya.; KOSHELEV, A.A.; KUDINOVA, L.I., red.

[Methods for using electronic computers in the optimization of power engineering calculations] Metody primeneniia elektronno-vychislitel'nykh mashin pri optimizatsii energeticheskikh raschetov. Moskva, Nauka, 1964. 318 p. (MIRA 17:11)

1. Akademiya nauk SSSR. Sibirskoye otdeleniye. Energeticheskiy institut. 2. Chlen-korrespondent AN SSSR (for Melent'yev).

SUMAROKOV, V. A.

Water

Reports of the State Institute of Hydrology. Met. i gidrol. No. 6, 1948.

9. Monthly List of Russian Accessions, Library of Congress, November 1953, Uncl.

SUMAROKOV, V.A. (Chkalov)

Reservoirs, dams and protecting tracks from washouts. Put' i put. khoz. no.3:49 Mr '57. (MLRA 10:5)

1. Nachal'nik otdela inzhenernykh sooruzheniy sluzhby puti Orenburgskoy dorogi.
(Railroads--Track)

SUMAROKOV, V.A., inzh.

Prevent washouts of culverts and bridges. Put' i put. khoz. no.4:7-9 Ap '58. (MIRA 11:4)
(Railroad bridges) (Culverts) (Flood control)

SUMAROKOV, V.A.

Culverts constructed without bases on the Orenburg railroad. (MIRA 12:2)
Put' i put.khoz. no.1:34 Ja '59.

1. Nachal'nik otdela inzhenernykh sooruzheniy, g.Orenburg.
(Orenburg Province--Culverts)

SUMAROKOV, V.A., inzh.

Water tanks near the roadbed. Transp.stroi. 11 no.4:48-49 Ap '61. (MIRA 14:5)

(Railroads—Water supply)

PODGORNYY, I.M.; SUMAROKHOV, V.N.

[Injection of plasma clots into a magnetic trap with a field growing stronger toward the periphery] Inzhektsiia sgustkov plazmy v magnitnuiu lovushku s polem, vozrastaiushchim k periferii. Moskva, In-t atomnoi energii AN SSSR, 1960. 14 p. (MIRA 16:12)
(Magnetic fields) (Plasma (Ionized gases))

S/030/60/000/011/024/026
B021/B056

AUTHOR: Sumarokov, V. N.

TITLE: Theoretical and Applied Magnetohydrodynamics

PERIODICAL: Vestnik Akademii nauk SSSR, 1960, No. 11, pp. 125-127

TEXT: The second conference on magnetohydrodynamics took place at Riga from June 27 to July 2 1960. More than 100 lectures on theoretical problems of magnetohydrodynamics, theoretical and experimental problems of the physics of plasmas as well as on problems of applied magnetohydrodynamics were delivered. The following reports were given: S. A. Kaplan: "On the History and Formation and Development of Magnetohydrodynamics"; D. A. Frank-Kamenetskiy: "The Properties of the Ionized Gas"; K. P. Stanyukovich: characterized problems of the relativity-magnetogas dynamics; S. I. Syrovatskiy: on shock waves in magnetohydrodynamics; A. G. Frank: on the papers of a group of authors on problems of the reflection and refraction of shock waves in magnetohydrodynamics; Yu. M. Volkov, L. I. Dorman, and Yu. M. Mikhaylov spoke about "Experiments With the Generation of the Magnetic Field in Metals and the Problem of the Formation of the

Card 1/3

Geomagnetic Field". A. I. Morozov and L. S. Solov'yev spoke about the kinetic investigation of the structure of the plasma boundary in the magnetic field; V. N. Tsytovich: "On the Solution of the Problem of the Collision of Conductive Gas Masses"; L. I. Rudakov: "On Oscillations of Heterogeneous Plasmas"; I. M. Podgornyy and V. N. Sumarokov spoke about the results of injecting accelerated plasma clusters in the magnetic field; M. D. Borisov and his collaborators spoke about the conductivity of the plasma of the rectilinear pinch; L. V. Dubovoy spoke about the experimental determination of the plasma conductivity in strong electric fields; M. N. Vasil'yev and E. M. Reykhrudel' spoke about the kinetics of electrons; D. V. Orlinskiy: "The Investigation of the Shock Wave"; I. F. Kharchenko and Ya. B. Faynberg dwelt upon problems of the passage of an electron beam through the plasma; L. Ya. Ustimenko and Ye. I.Yantovskiy: "The Theory of a Synchronous Magnetogas Dynamic Machine"; L. M. Dronnik: "The Circular Diagram of an Asynchronous Magnetogasdynamic Generator". In the section for applied magnetohydrodynamics, the major part of the lectures were delivered by collaborators of the Institut fiziki Akademii nauk Latviyskoy SSR (Institute of Physics of the Academy of Sciences Latviyskaya SSR) I. M. Kirko and A. E. Mikhel'son reported on the problem

of melting without crucibles. The conference contributed towards extending the outlook of the participants and has consolidated contact between research workers.

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26.2321

S/056/61/040/002/008/047
B113/B214

AUTHORS: Luk'yanov, S. Yu., Podgornyy, I. M., Sumarokov, V. N.

TITLE: Confinement of a plasma in traps with a magnetic field increasing toward the periphery

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40, no. 2, 1961, 448-451

TEXT: This work represents a continuation of an earlier work (c.f. J. Nuclear Energy, Part C, 1, 236, 1960). Also in this case, a coaxial electrodynamic injector which created accelerated hydrogen clusters, was used for filling the trap with plasma. The plasma parameters in the trap of the accelerated clusters were measured, for which purpose a vacuum chamber of stainless steel was employed; its height was 100 cm, and its diameter 21 cm. The magnetic field of 1500 oe was generated by two solenoids in the circuit of the injector. Langmuir probes were used for measuring the plasma parameters. As is seen from Fig. 1, in the region of the trap there exists a plasma long after switching off the discharge current (C = 2.5 μF, V = 3 - 11 kv) in the injector circuit. The confine-

Card 1/7

Confinement of a plasma in ...

ment time is about 40 μsec. Probe measurements showed that the density of the charged particles in the trap increases with increasing potential of the injector. This is inferred from Fig. 2, in which the ion saturation current J on the probe is shown as a function of the injector potential. Assuming that the temperature of the charged particles remains unchanged, the saturation current is proportional to the ion concentration. Measurements at different injector potentials showed that the electron temperature remained unchanged in both cases. On switching off the magnetic trap no accumulation of the plasma was observed in the vacuum chamber (Fig. 3). A comparison of Figs. 1 and 3 shows that a confinement of the plasma takes place within a certain time. To observe the different stages of plasma formation in the trap, ultrahigh-speed photography was applied. To observe the processes better, a vacuum chamber made of glass instead of steel was used. The magnetic trap used here is shown schematically in Fig. 4 (field = 6000 oe, duration of a field pulse = 2000 μsec). It was found that after the end of injection, the plasma does not leave the trap immediately. Now and then the plasma exhibited an abnormal behavior. In this case, the lifetime of the plasma was much shorter than that in the case represented in Fig. 5. It is not

Confinement of a plasma in...

yet clear, however, whether the observed abnormal behavior of the plasma is a consequence of a macroscopic instability or is connected with the method of filling the trap with plasma. There are 6 figures and 5 references: 3 Soviet-bloc and 2 non-Soviet-bloc.

SUBMITTED: August 24, 1960

Card 3/7

Confinement of a plasma in...

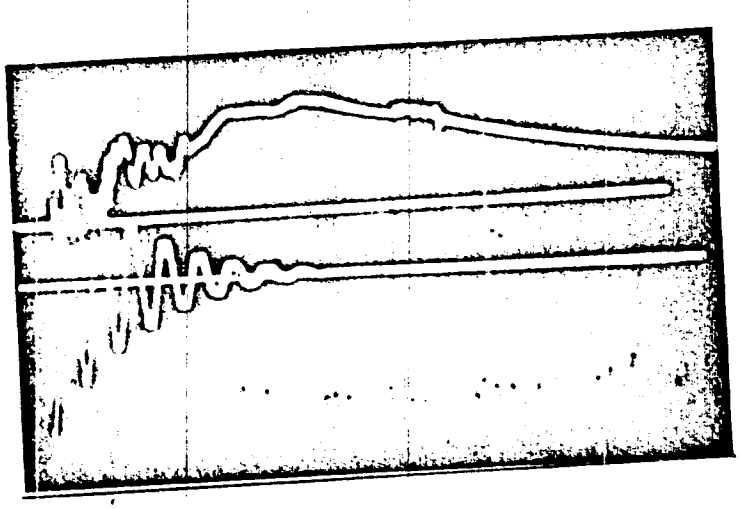

Fig.1

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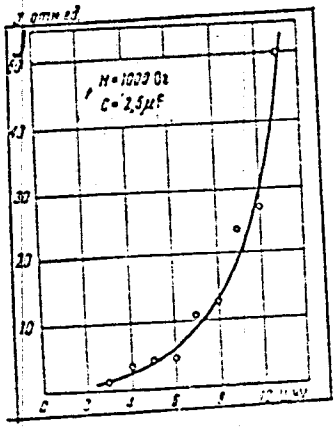

Fig. 2

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Confinement of a plasma in...

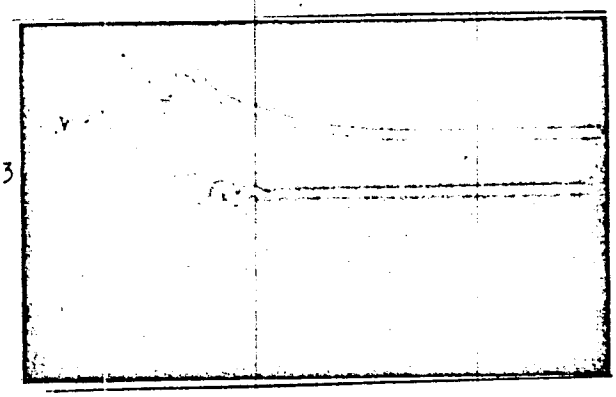


Fig. 3

Card 6/7

Confinement of a plasma in...

Legend to Fig. 4: Scheme of the magnetic trap; 1) coils producing the magnetic field, 2) high-speed photographic camera, 3) evacuation.

Fig.4

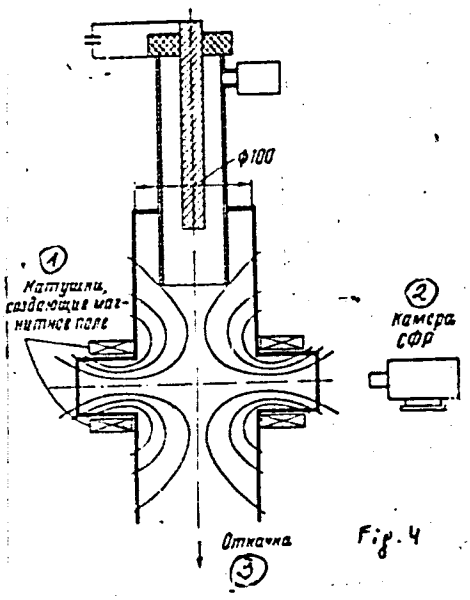


Fig.4

Card 7/7

ACCESSION NR: AP4035092

S/0057/64/034/005/0833/0840

AUTHOR: Podgornyy, I.M.; Sumarokov, V.N.

TITLE: Investigation of the behavior of plasma in a magnetic trap with an axial current

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.5, 1964, 833-840

TOPIC TAGS: plasma compression, magnetic trap, biconical cusp, axial current biconical cusp, ion temperature, ionized carbon line, NIMFA-1 machine

ABSTRACT: This paper reports experiments on the confinement of plasma in a biconical cusp with an auxiliary azimuthal magnetic field produced by an axial current. The purpose of the auxiliary field was to minimize loss of adiabaticity and consequent escape of plasma through the annular cusp and to increase compression efficiency. The experiments were performed with the NIMFA-1 installation. The biconical cusp was formed in a 20-cm-diameter, stainless-steel tube by discharge of a capacitor through two coils separated by approximately 15 cm. The discharge time was 6 millisec, and the field reached 5000 Oe in the region of the cusp. The auxiliary field was produced by discharge of a 1500-microfarad capacitor through an axial rod.

Card 1/3

ACCESSION NR: AP4035692

The rod [diameter not given] was insulated with polyethelene and was enclosed in a grounded stainless-steel tube. The discharge time was 300 microsec and the current reached a maximum of 100 kA. Bursts of hydrogen plasma from a coaxial cylindrical gun were injected along the axial rod at a time when the current in the rod was only 10% of its maximum value. A diaphragm with an annular opening (radii 13 and 15 mm) permitted entrance of the plasma and minimized entrance of neutral atoms. Application of the increasing axial current resulted in a decrease of the confinement time by a factor of 3 to 5 but also in a considerable increase of the temperature attained. Without the axial current, the spectrum consisted of neutral hydrogen and singly ionized carbon lines. The intensity of these lines decayed with a time constant of 40 to 60 microsec. When the axial current was present, the most prominent line was C III 4647 Å. This reached its maximum intensity after the C II 4267 Å line had nearly disappeared, and then it faded rapidly. The C IV 2530 Å line was not observed. That the failure to observe the C IV line was due to rapid loss of plasma was confirmed by bolometer measurements of plasma loss through the cusp. From the spectrum data, the electron temperature was estimated to reach 20 to 30 ev. The ion temperature, in the absence of the axial current, was found by probe measurements to be 10 ev. Calorimetric measurements showed that the ion temperature reached 20 to 25 ev when the axial current was present. Orig. art. has: 3 figures and 3 formulas.

Card 2/3

ACCESSION NR: AP4035607

ASSOCIATION: none

SUBMITTED: 10Jun63	ATD PRESS: 3080	ENCL: 00
SUB CODE: ME, EM	NR REF SOV: 003	OTHER: 004

Card 3/3

ACC NR: AP6036031 SOURCE CODE: UR/0057/66/036/011/1976/1983

AUTHOR: Koval'skiy, N. G.; Sumarokov, V. N.

ORG: none

TITLE: Investigation of plasma in a magnetic trap having opposed magnetic fields

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 11, 1966, 1976-1983

TOPIC TAGS: plasma magnetic field, plasma velocity, plasma, magnetic field, magnetic trap, plasma lifetime, collision ionized plasma, hydrogen plasma, magnetic field plasma effect, plasma physics, plasma research, plasma structure

ABSTRACT: The behavior of plasma in a trap having opposed fields was studied for a case of when the typical time period for collision processes in (ion-ion coulomb collisions and proton charge exchanges by neutral hydrogen atoms) is only a few milliseconds. A plasma bunch was injected into the trap through a ring diaphragm set on the axis of the system in the region of the magnetic gap.

UDC: 533.9

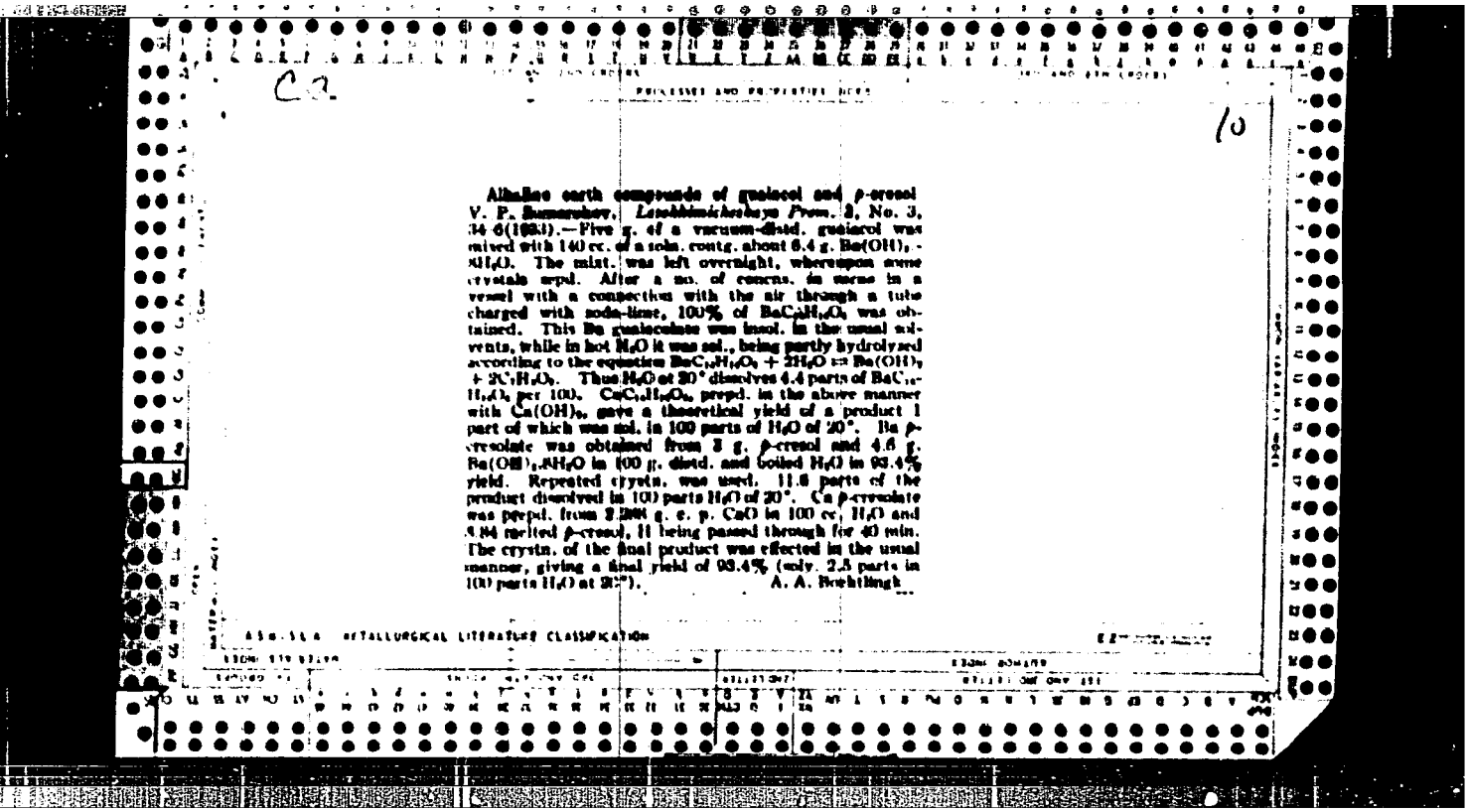
Card 1/2

ACC NR: AP6036031

The velocity of the bunch was $1-2 \cdot 10^7$ cm/sec, and the total energy of the plasma injected into the trap was 0.3 j. Experiments showed that at the initial moment the plasma fills the central region of the trap near the point of zero magnetic field intensity. At a field intensity of 3000 oe, the concentration of plasma was $\sim 3 \cdot 10^{11}$ cm^{-3}. As a result of special efforts the concentration of impurity atoms and neutral hydrogen in the chamber did not exceed $5 \cdot 10^9$ cm^{-3}. It is shown that protons leave the trap in the region of the magnetic ring gap with an average transverse energy of $\sim$50 ev. This demonstrates the effectiveness of the conversion of directed plasma bunch energy into a Larmor ion rotation in interaction with opposed magnetic fields. The containment time of particles with a given average energy exceeds by one order the time of flight through the region affected by the magnetic field. Plasma lifetime was found to be strongly affected by the intensity of the magnetic field. Orig. art. has: 2 tables and 4 figures. [SP]
[Authors' abstract]

SUB CODE: 20/SUBM DATE: 04Dec65/ORIG REF: 002/OTH REF: 006/

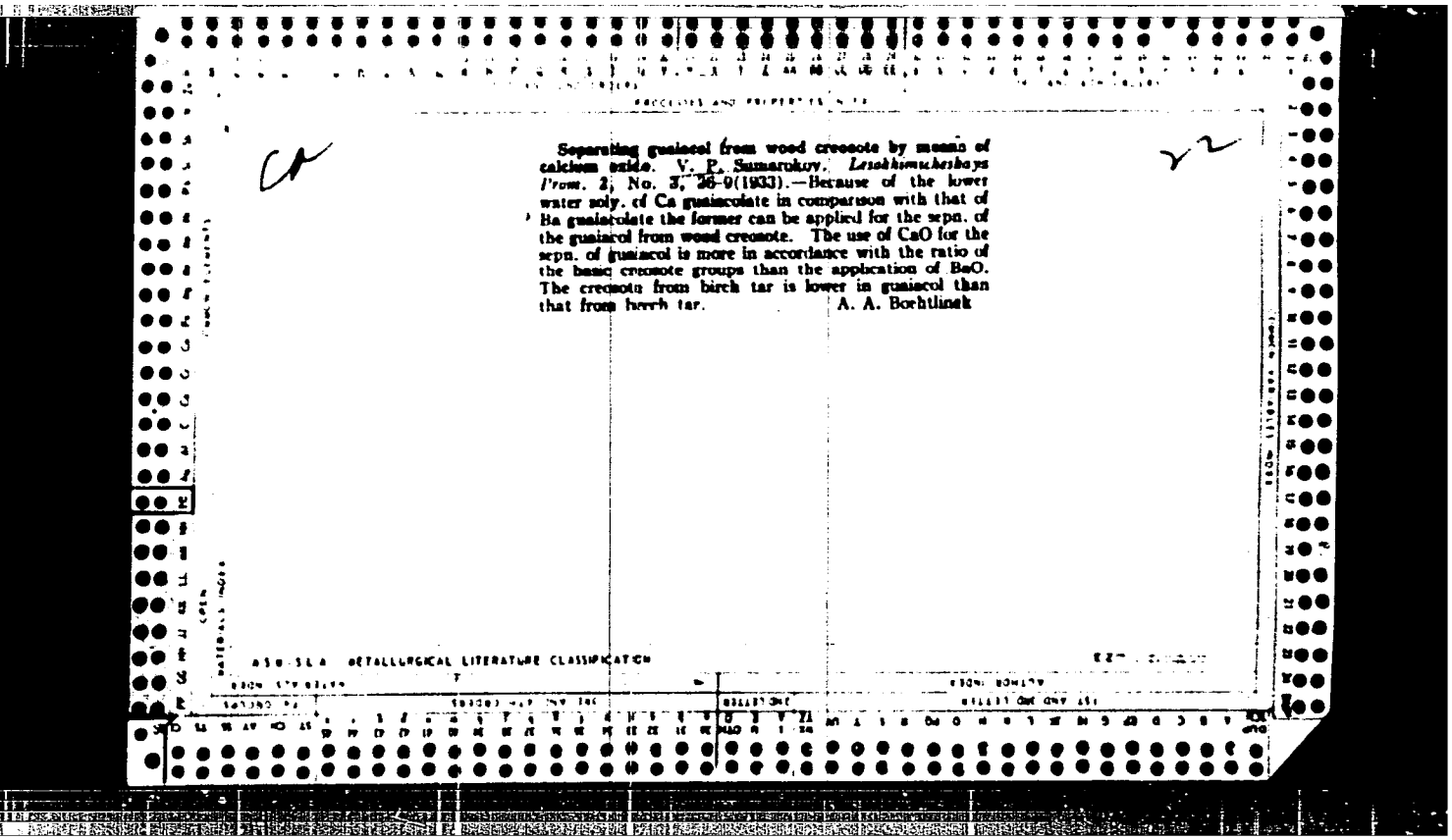
Card 2/2



C2

10

Alkaline earth compounds of guaiacol and *p*-cresol. V. P. Samarukov. *Leshkhimicheskaya Prom.* 3, No. 3, 34-6(1933).—Five g. of a vacuum-distd. guaiacol was mixed with 140 cc. of a soln. contg. about 6.4 g. $Ba(OH)_2 \cdot 8H_2O$. The mixt. was left overnight, whereupon some crystals sepd. After a no. of concns. in vacuo in a vessel with a connection with the air through a tube charged with soda-lime, 100% of $BaC_7H_7O_2$ was obtained. This Ba guaiacolate was insol. in the usual solvents, while in hot H_2O it was sol., being partly hydrolyzed according to the equation $BaC_7H_7O_2 + 2H_2O \rightleftarrows Ba(OH)_2 + 2C_7H_8O_2$. Thus H_2O at 20° dissolves 4.4 parts of $BaC_{14}H_{14}O_4$ per 100. $CaC_7H_7O_2$, prepd. in the above manner with $Ca(OH)_2$, gave a theoretical yield of a product 1 part of which was sol. in 100 parts of H_2O of 20°. Ba *p*-cresolate was obtained from 3 g. *p*-cresol and 4.6 g. $Ba(OH)_2 \cdot 8H_2O$ in 100 g. distd. and boiled H_2O in 93.4% yield. Repeated crysts. was used. 11.8 parts of the product dissolved in 100 parts H_2O of 20°. Ca *p*-cresolate was prepd. from 2.208 g. c. p. CaO in 100 cc. H_2O and 8.84 melted *p*-cresol, H being passed through for 40 min. The crysts. of the final product was effected in the usual manner, giving a final yield of 93.4% (solv. 2.5 parts in 100 parts H_2O at 20°). A. A. Boehtlingk



Separating guaiacol from wood creosote by means of calcium oxide. V. P. Samarukov. *Lesokhimicheskaya Prom.* 2, No. 3, 26-9(1933).—Because of the lower water soly. of Ca guaiacolate in comparison with that of Ba guaiacolate the former can be applied for the sepn. of the guaiacol from wood creosote. The use of CaO for the sepn. of guaiacol is more in accordance with the ratio of the basic creosote groups than the application of BaO. The creosote from birch tar is lower in guaiacol than that from beech tar. A. A. Borhtlinsk

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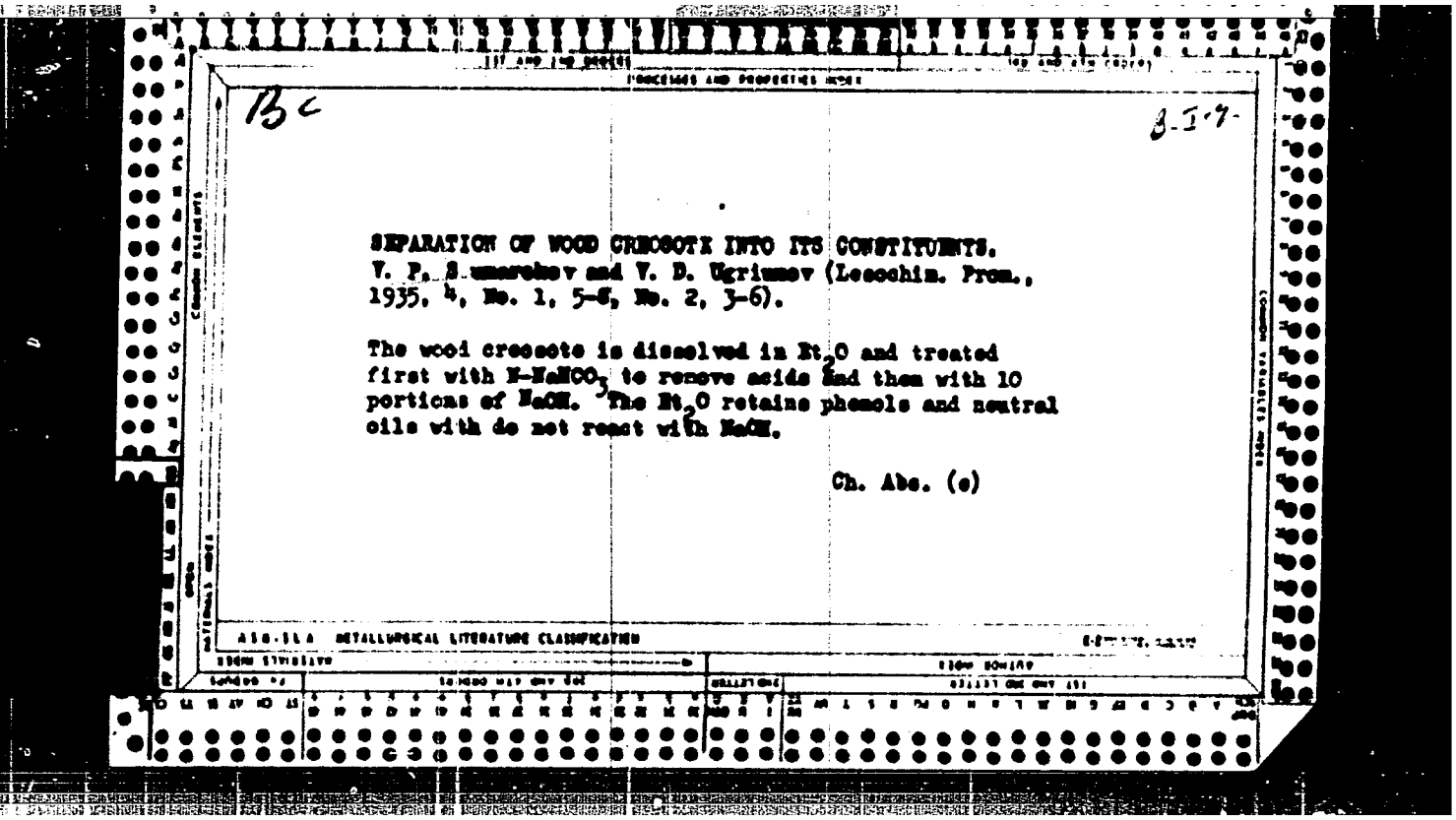

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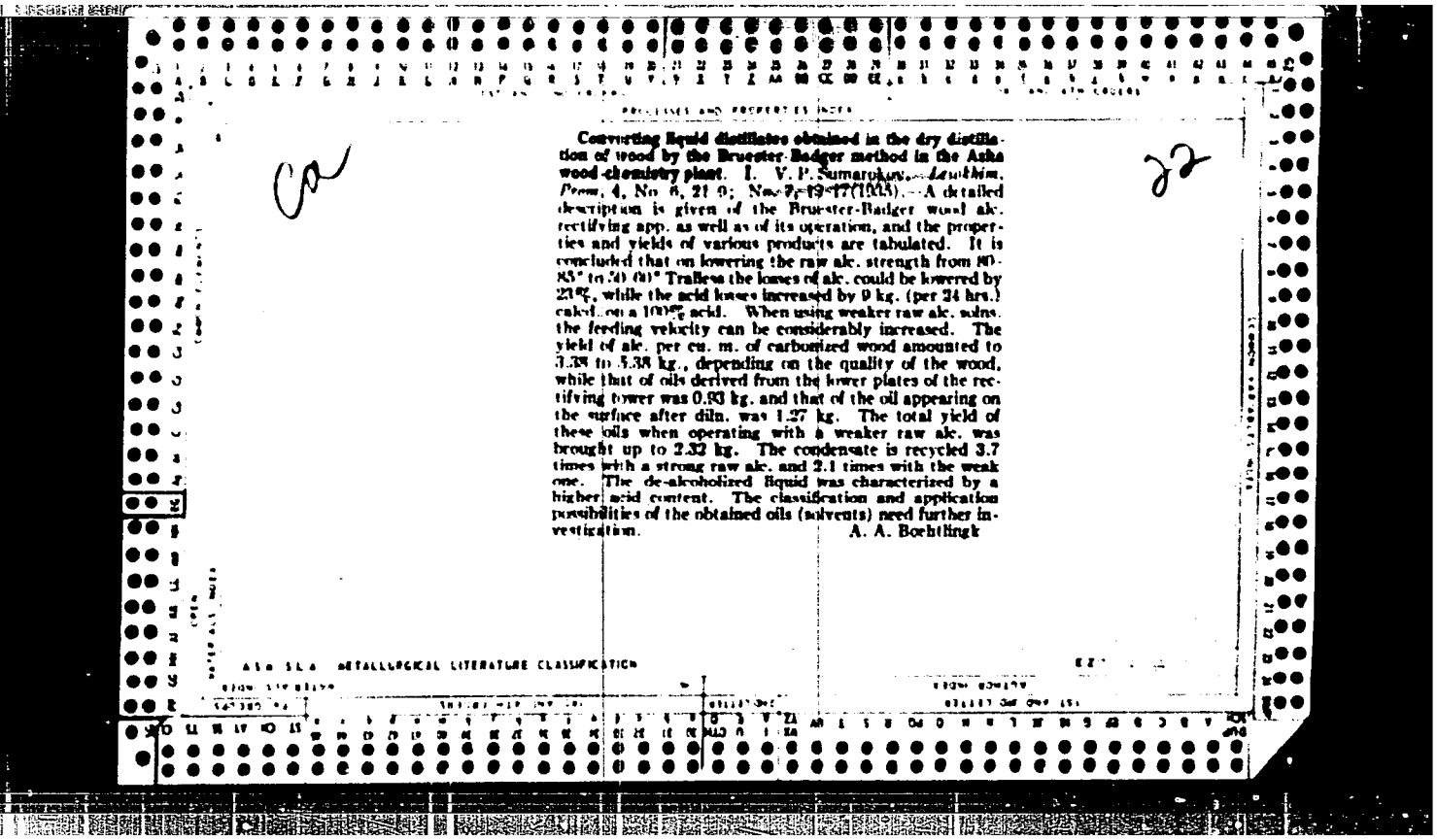
B-I-7-

SEPARATION OF WOOD CREOSOTE INTO ITS CONSTITUENTS.
V. P. Smorchev and V. D. Ugriumov (Lesochim. Prom., 1935, 4, No. 1, 5-6, No. 2, 3-6).

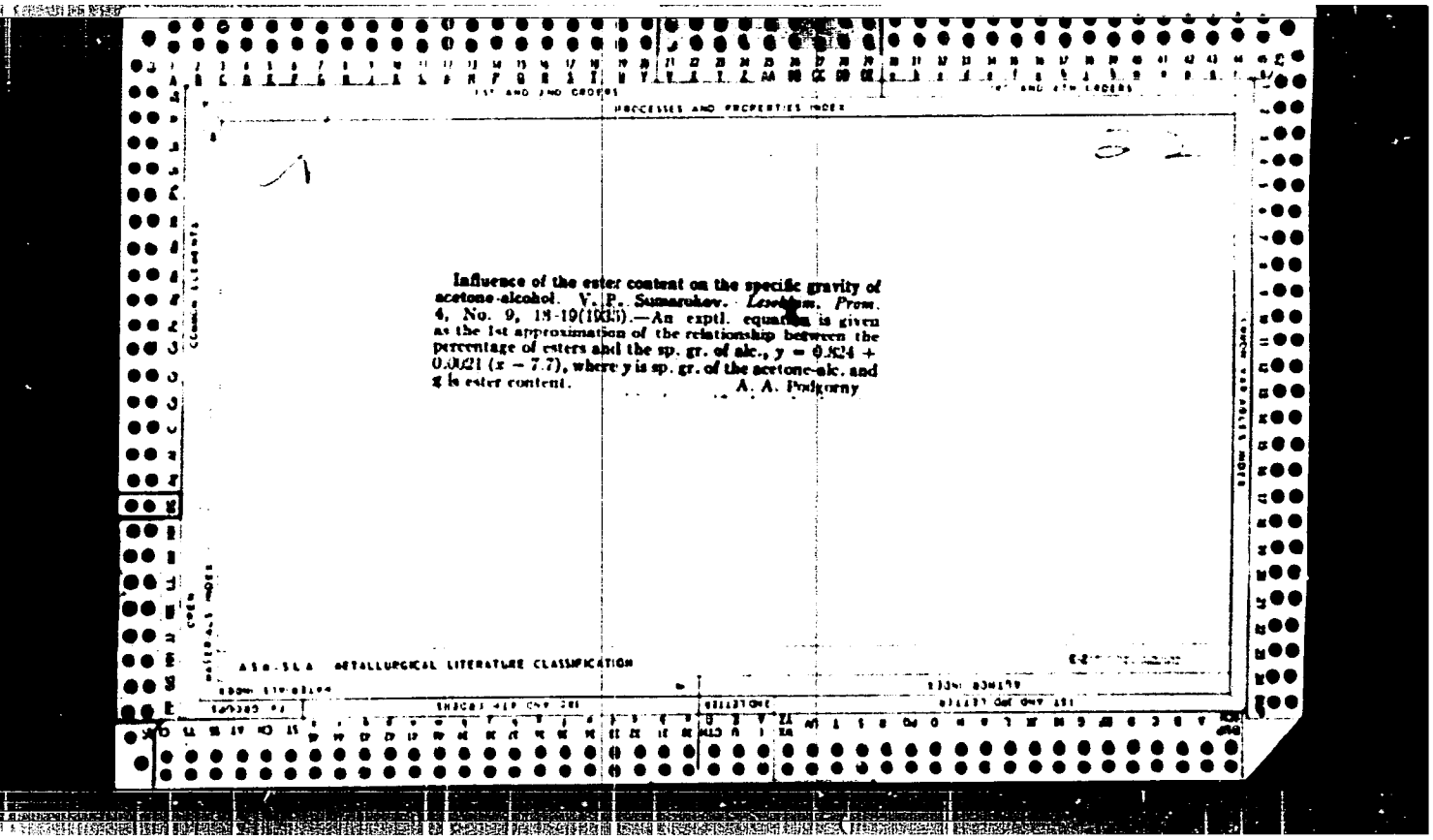
The wood creosote is dissolved in Et_2O and treated first with N-$NaHCO_3$ to remove acids and then with 10 portions of NaOH. The Et_2O retains phenols and neutral oils with do not react with NaOH.

Ch. Abs. (e)

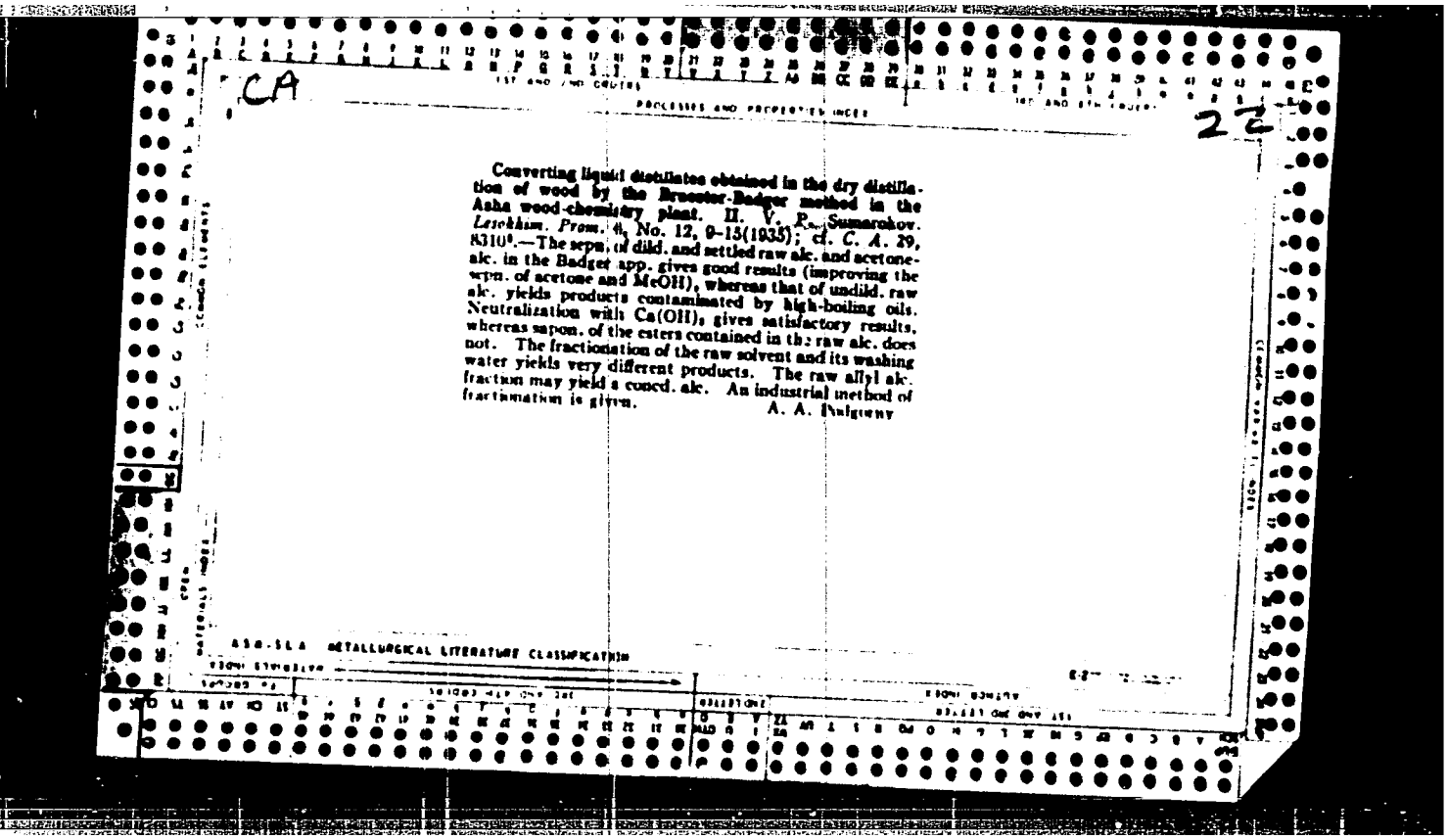


Converting liquid distillates obtained in the dry distillation of wood by the Bruester-Badger method in the Asha wood-chemistry plant. I. V. P. Sumarokov. *Lesokhim. Prom.*, 4, No. 6, 21-9; No. 7, 19-17(1935).—A detailed description is given of the Bruester-Badger wood alc. rectifying app. as well as of its operation, and the properties and yields of various products are tabulated. It is concluded that on lowering the raw alc. strength from 80-85° to 50-60° Tralles the losses of alc. could be lowered by 25%, while the acid losses increased by 9 kg. (per 24 hrs.) calcd. on a 100% acid. When using weaker raw alc. solns. the feeding velocity can be considerably increased. The yield of alc. per cu. m. of carbonized wood amounted to 3.38 to 5.38 kg., depending on the quality of the wood, while that of oils derived from the lower plates of the rectifying tower was 0.93 kg. and that of the oil appearing on the surface after dilu. was 1.27 kg. The total yield of these oils when operating with a weaker raw alc. was brought up to 2.32 kg. The condensate is recycled 3.7 times with a strong raw alc. and 2.1 times with the weak one. The de-alcoholized liquid was characterized by a higher acid content. The classification and application possibilities of the obtained oils (solvents) need further investigation.

A. A. Boehtlingk



Influence of the ester content on the specific gravity of acetone-alcohol. V. P. Sumarukov. *Lesokhim. Prom.* 4, No. 9, 18-19(1944).—An expti. equation is given as the 1st approximation of the relationship between the percentage of esters and the sp. gr. of alc., $y = 0.824 + 0.0021 (x - 7.7)$, where y is sp. gr. of the acetone-alc. and g is ester content. A. A. Podgorny



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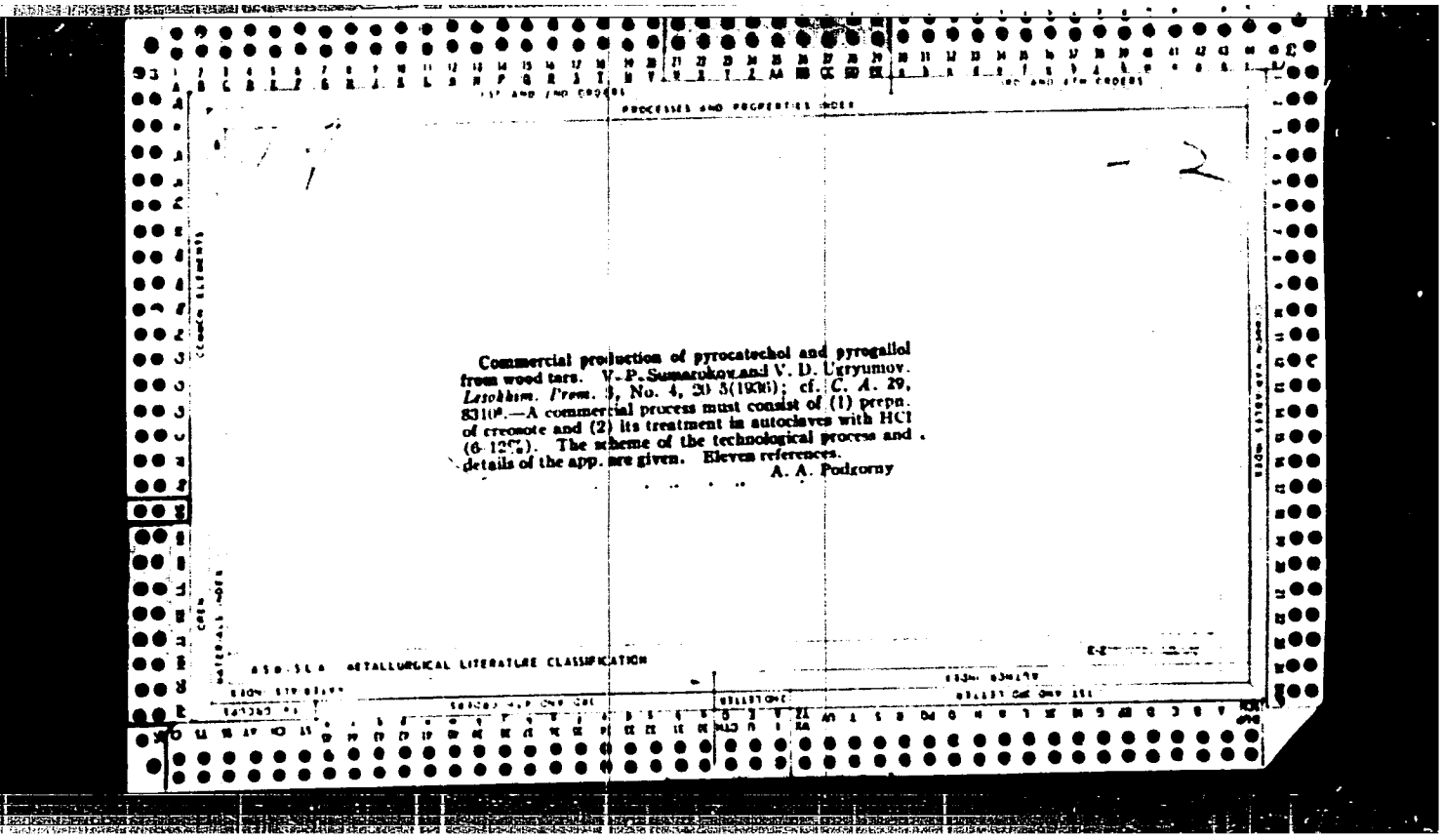
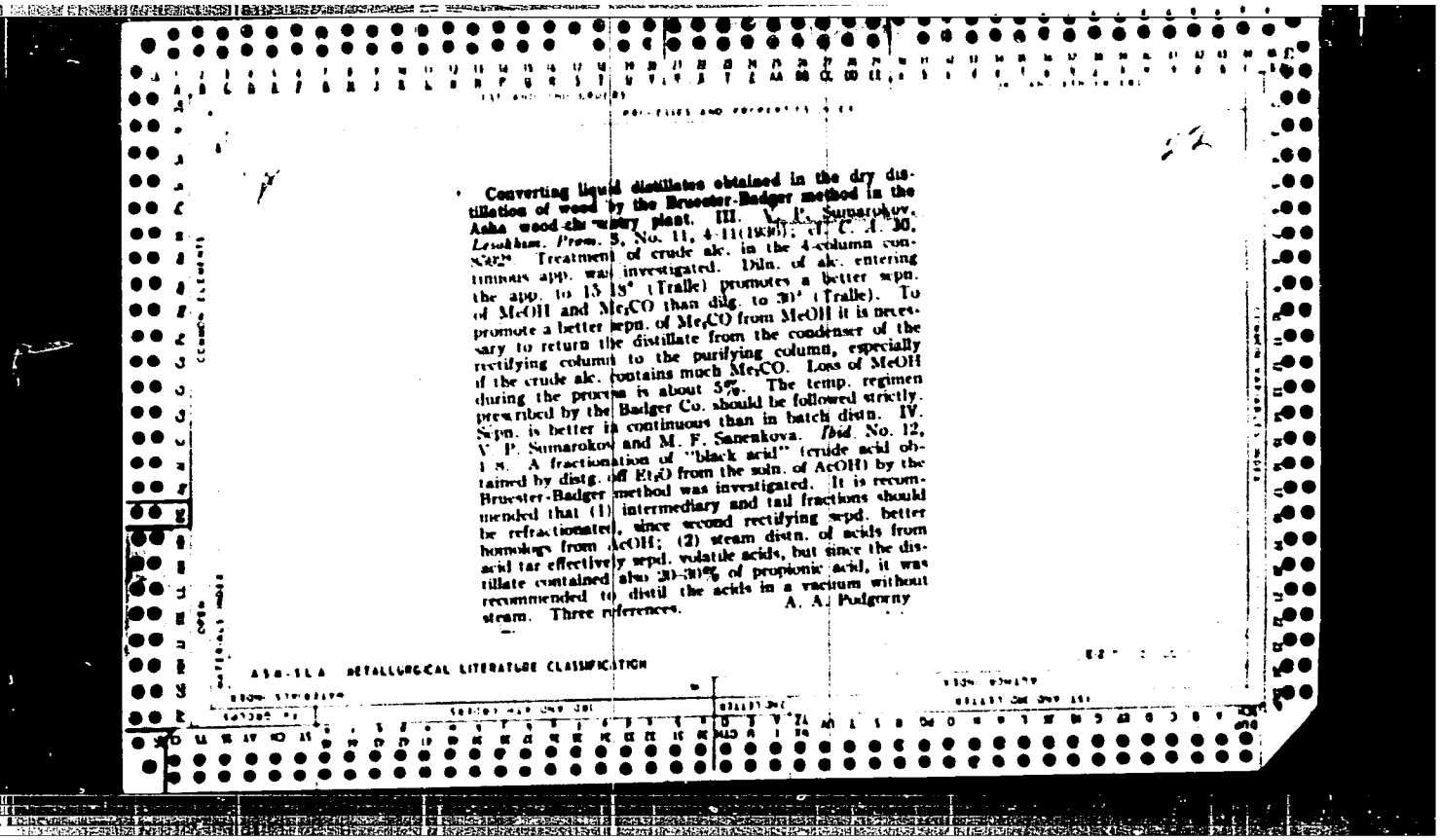
Converting liquid distillates obtained in the dry distillation of wood by the Brunotor-Badger method in the Asha wood-chemistry plant. II. V. P. Sumarokov. *Leichkhim. Prom.* 4, No. 12, 9–15(1935); cf. *C. A.* 29, 8310⁹.—The sepn. of dild. and settled raw alc. and acetone-sepn. of acetone and MeOH), whereas that of undild. raw alc. yields products contaminated by high-boiling oils. Neutralization with $Ca(OH)_2$ gives satisfactory results, whereas sapon. of the esters contained in the raw alc. does not. The fractionation of the raw solvent and its washing water yields very different products. The raw allyl alc. fraction may yield a concd. alc. An industrial method of fractionation is given.

A. A. Bulgarov



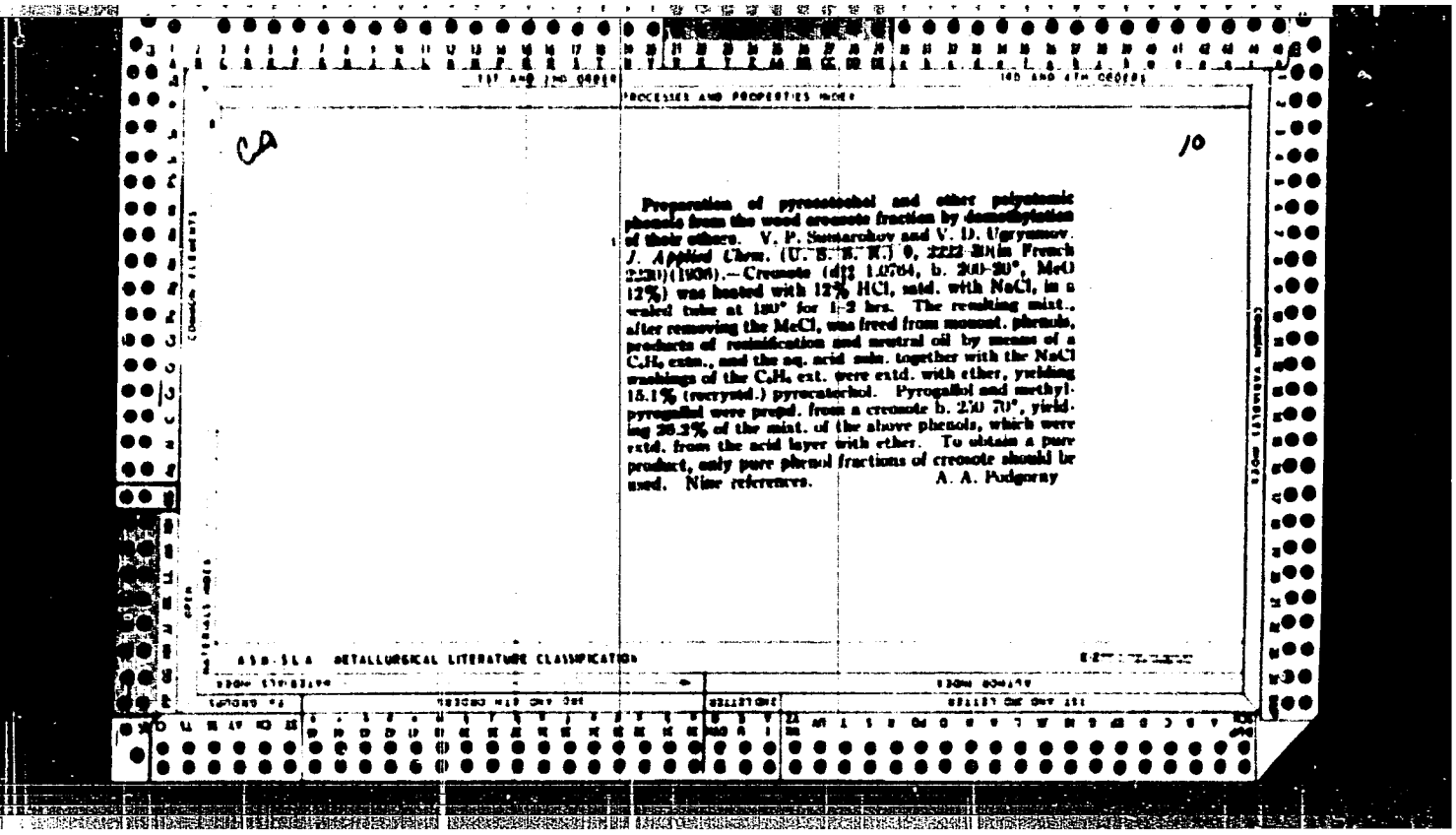
Commercial production of pyrocatechol and pyrogallol from wood tars. V. P. Samarokov and V. D. Ugryumov. *Lesokhim. Prom.* 3, No. 4, 20-5(1936); cf. *C. A.* 29, 8310⁸.—A commercial process must consist of (1) prepn. of creosote and (2) its treatment in autoclaves with HCl (6-12%). The scheme of the technological process and details of the app. are given. Eleven references.

A. A. Podgorny



Converting liquid distillates obtained in the dry distillation of wood by the Brewster-Badger method in the Asha wood-chemistry plant. III. V. P. Sumarokov. *Lesokhim. Prom.* 5, No. 11, 4-11(1939); cf. *C. A.* 30, 5429. Treatment of crude alc. in the 4-column continuous app. was investigated. Dilu. of alc. entering the app. to 15-18° (Tralle) promotes a better sepn. of MeOH and Me_2CO than dilg. to 30° (Tralle). To promote a better sepn. of Me_2CO from MeOH it is necessary to return the distillate from the condenser of the rectifying column to the purifying column, especially if the crude alc. contains much Me_2CO. Loss of MeOH during the process is about 5%. The temp. regimen prescribed by the Badger Co. should be followed strictly. Sepn. is better in continuous than in batch distn. IV. V. P. Sumarokov and M. F. Sanenkova. *Ibid.* No. 12, 1-8. A fractionation of "black acid" (crude acid obtained by distg. off Et_2O from the soln. of AcOH) by the Brewster-Badger method was investigated. It is recommended that (1) intermediary and tail fractions should be refractionated, since second rectifying sepd. better homologs from AcOH; (2) steam distn. of acids from acid tar effectively sepd. volatile acids, but since the distillate contained also 20-30% of propionic acid, it was recommended to distil the acids in a vacuum without steam. Three references.

A. A. Podgorny



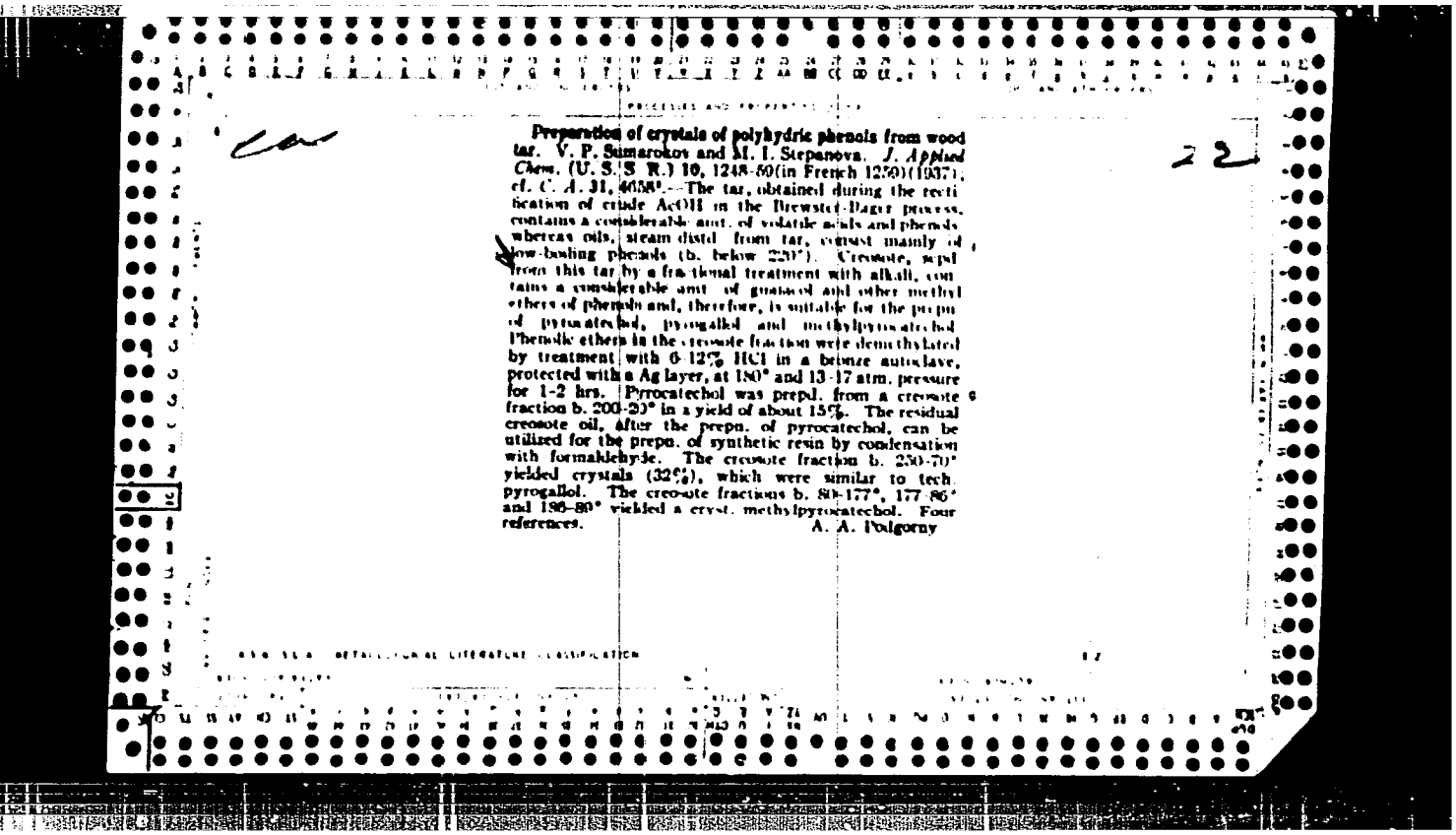
PROCESSES AND PROPERTIES INDEX

CA

10

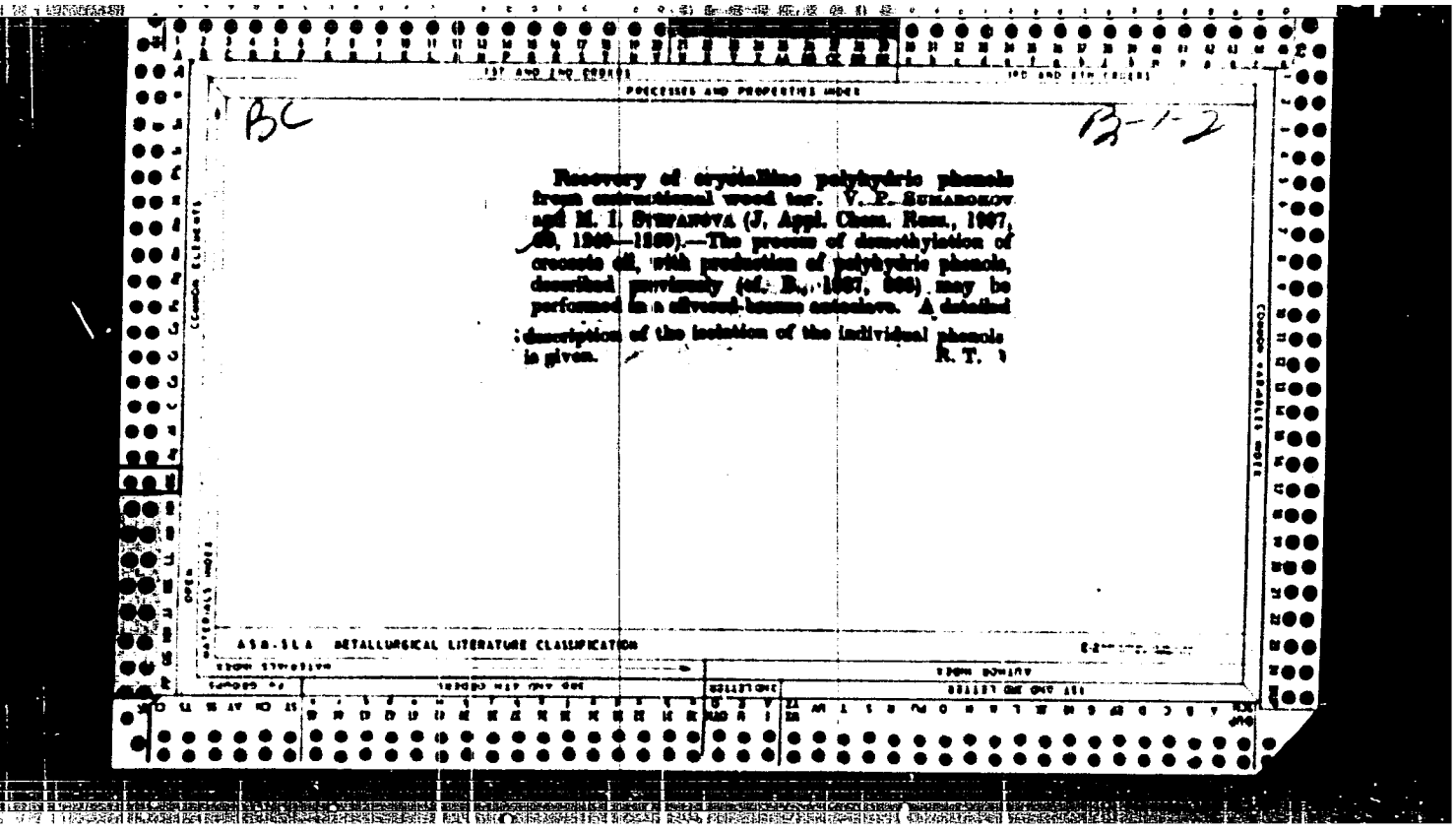
Preparation of pyrocatechol and other polyatomic phenols from the wood creosote fraction by demethylation of their ethers. V. P. Sumarokov and V. D. Ogryzunov. *J. Applied Chem.* (U. S. S. R.) 9, 2223-31(in French 2231)(1936).—Creosote (d$^{15}_{15}$ 1.0764, b. 200-20°, MeO 12%) was heated with 12% HCl, satd. with NaCl, in a sealed tube at 180° for 1-2 hrs. The resulting mixt., after removing the MeCl, was freed from unreact. phenols, products of resinification and neutral oil by means of a C_6H_6 extn., and the aq. acid soln. together with the NaCl washings of the C_6H_6 ext. were extd. with ether, yielding 15.1% (recrystd.) pyrocatechol. Pyrogallol and methylpyrogallol were prepd. from a creosote b. 210-70°, yielding 26.2% of the mixt. of the above phenols, which were extd. from the acid layer with ether. To obtain a pure product, only pure phenol fractions of creosote should be used. Nine references. A. A. Podgorny

ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION



Preparation of crystals of polyhydric phenols from wood tar. V. P. Sumarokov and M. I. Stepanova. *J. Applied Chem.* (U. S. S. R.) 10, 1248-60(in French 1250)(1937); cf. C. A. 31, 4058⁸.—The tar, obtained during the rectification of crude AcOH in the Brewster-Dager process, contains a considerable amt. of volatile acids and phenols whereas oils, steam distd. from tar, consist mainly of low-boiling phenols (b. below 220°). Creosote, sepd. from this tar by a fractional treatment with alkali, contains a considerable amt. of guaiacol and other methyl ethers of phenols and, therefore, is suitable for the prepn. of pyrocatechol, pyrogallol and methylpyrocatechol. Phenolic ethers in the creosote fraction were demethylated by treatment with 6-12% HCl in a bronze autoclave, protected with a Ag layer, at 180° and 13-17 atm. pressure for 1-2 hrs. Pyrocatechol was prepd. from a creosote fraction b. 200-20° in a yield of about 15%. The residual creosote oil, after the prepn. of pyrocatechol, can be utilized for the prepn. of synthetic resin by condensation with formaldehyde. The creosote fraction b. 250-70° yielded crystals (32%), which were similar to tech. pyrogallol. The creosote fractions b. 80-177°, 177-86° and 186-89° yielded a cryst. methylpyrocatechol. Four references.

A. A. Polgorny



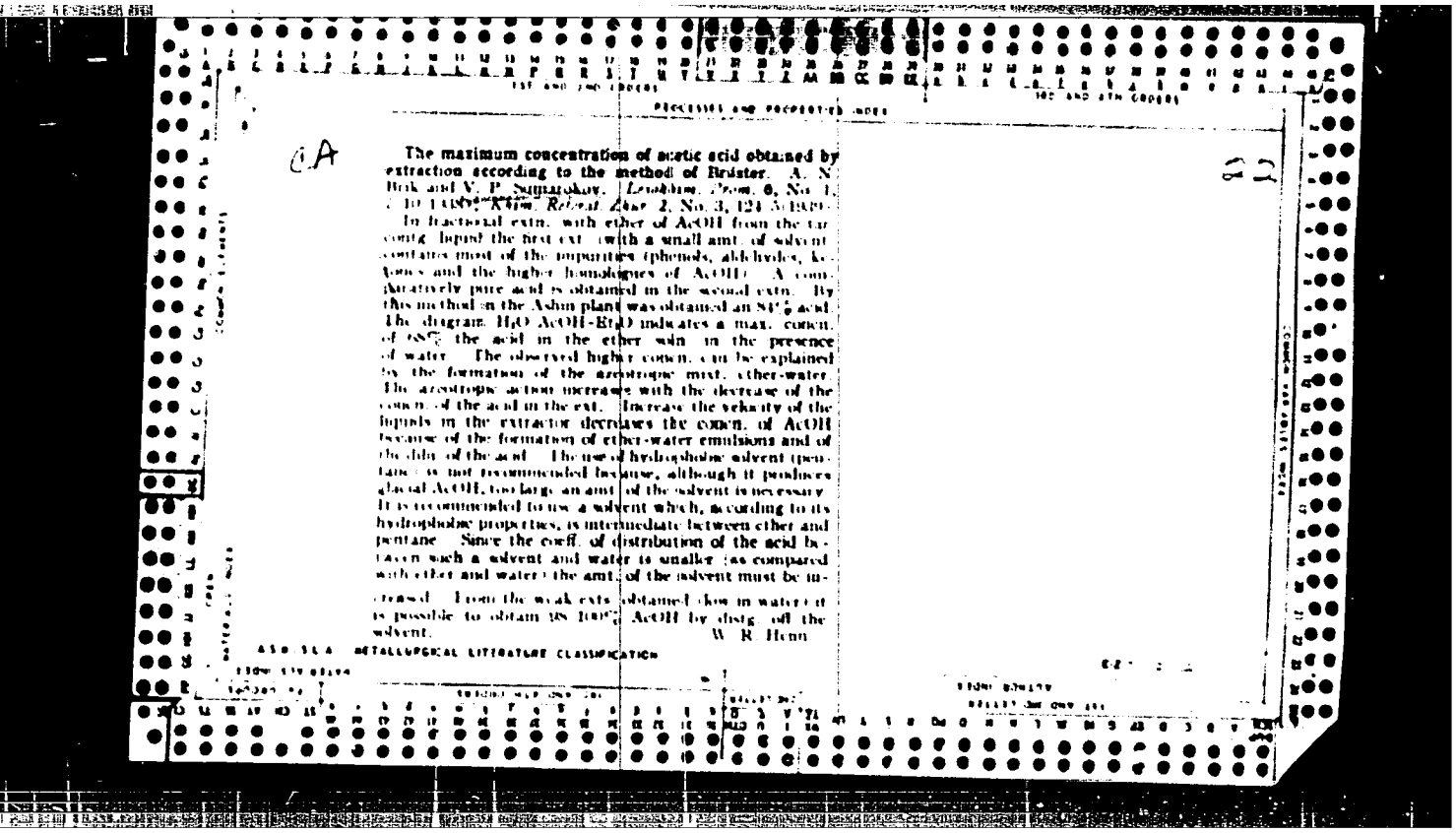
BC

B-1-2

Recovery of crystalline polyhydric phenols from extractional wood tar. V. P. SUMAROKOV and M. I. STEPANOVA (J. Appl. Chem. Russ., 1957, 30, 1560—1569).—The process of demethylation of creosote oil, with production of polyhydric phenols, described previously (cf. B., 1957, 508), may be performed in a silvosol-benzene autoclave. A detailed description of the isolation of the individual phenols is given.

R. T. [illegible]

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

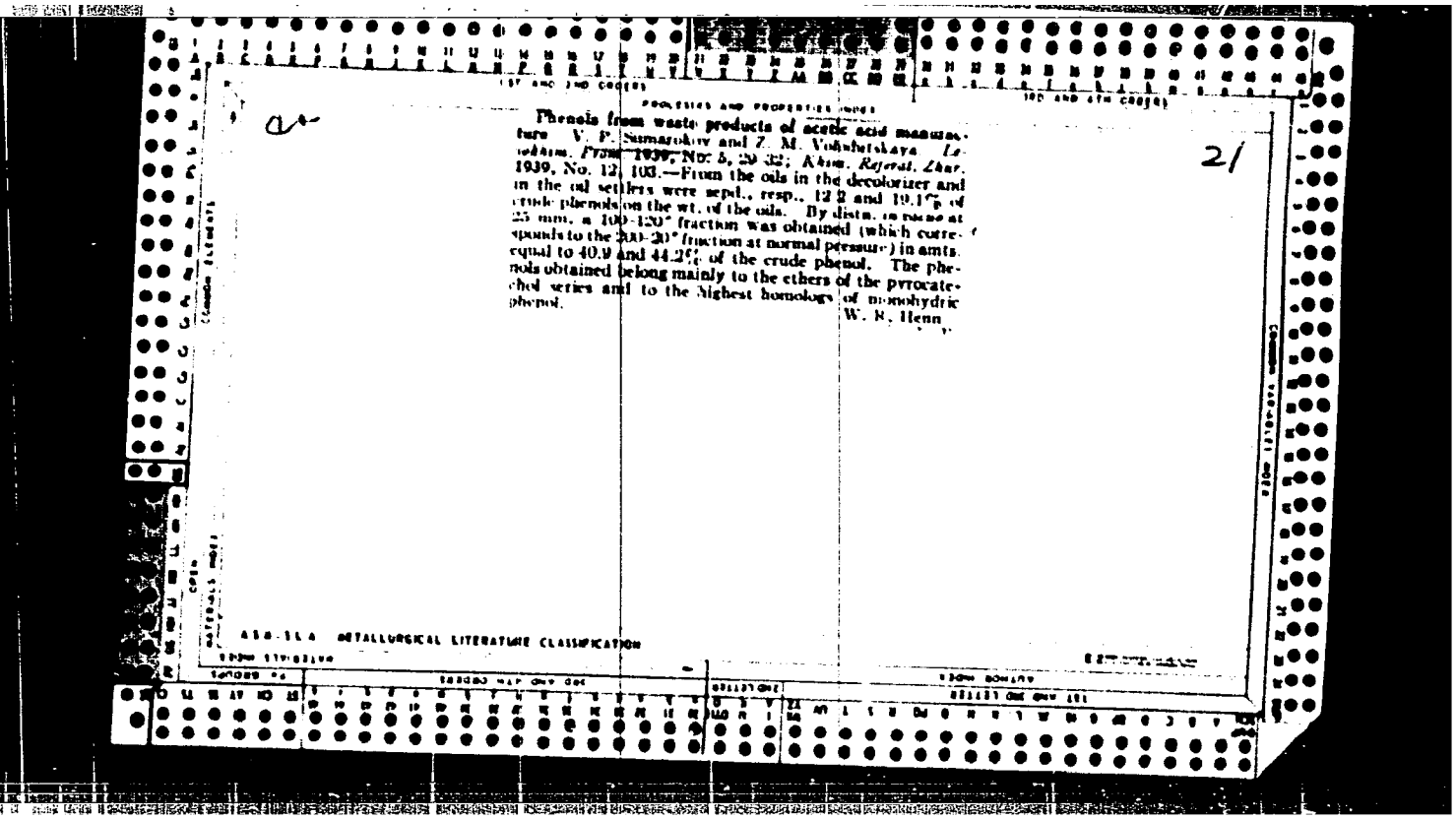


6A

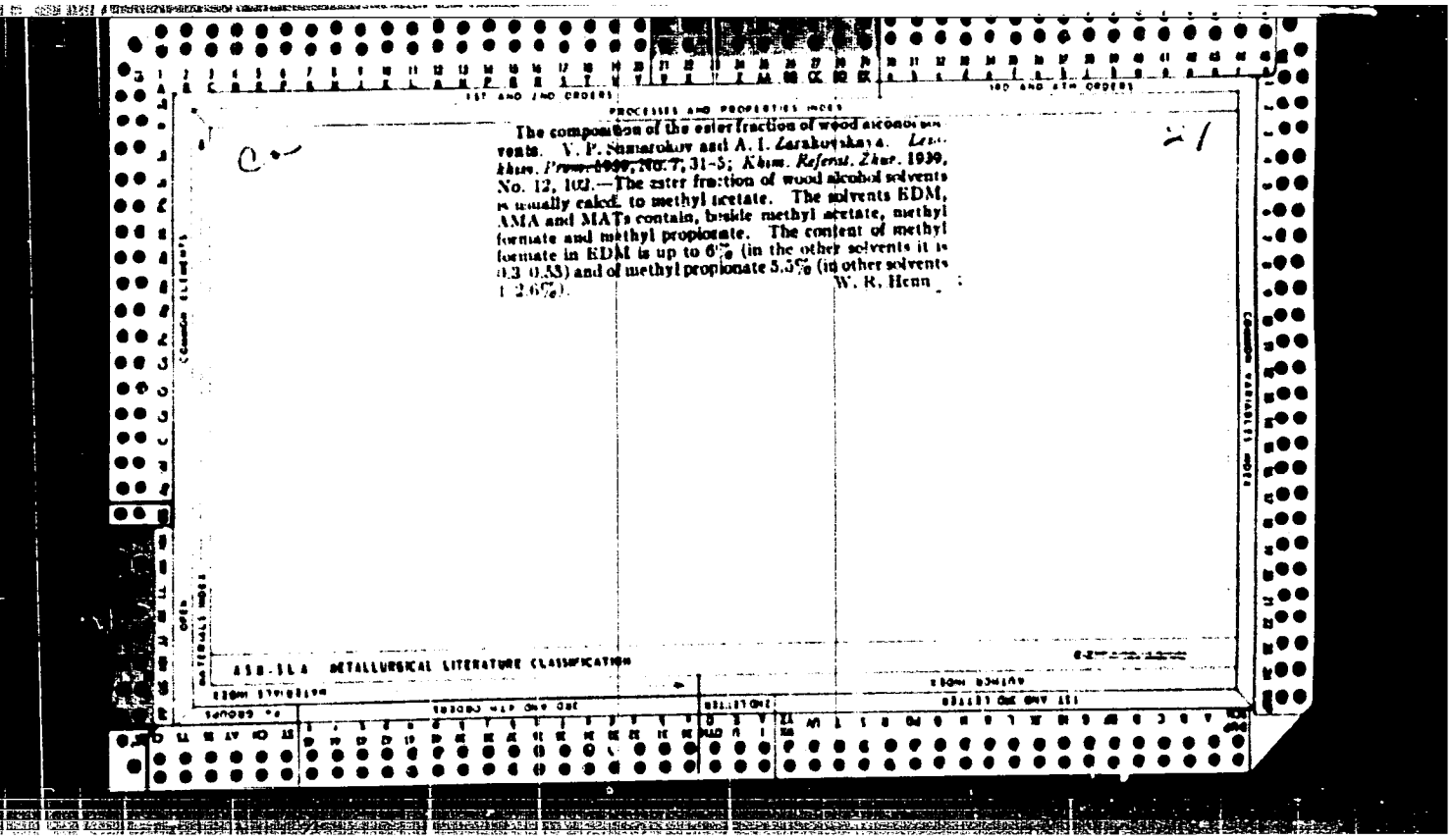
The maximum concentration of acetic acid obtained by extraction according to the method of Brister. A. N. Brik and V. P. Sumarokov. *Leningrad. Zavod.* 6, No. 1, 10 (1937); *Khim. Referat. Zhur.* 2, No. 3, 124 (1937).—In fractional extn. with ether of AcOH from the carbonizing liquid the first ext. (with a small amt. of solvent) contains most of the impurities (phenols, aldehydes, ketones and the higher homologues of AcOH). A comparatively pure acid is obtained in the second extn. By this method in the Ashm plant was obtained an 80% acid. The diagram, H_2O-AcOH-Et_2O indicates a max. concn. of 68% the acid in the ether soln. in the presence of water. The observed higher concn. can be explained by the formation of the azeotropic mixt. ether-water. The azeotropic action increases with the decrease of the concn. of the acid in the ext. Increase the velocity of the liquids in the extractor decreases the concn. of AcOH because of the formation of ether-water emulsions and of the dilu. of the acid. The use of hydrophobic solvent (pentane) is not recommended because, although it produces glacial AcOH, too large an amt. of the solvent is necessary. It is recommended to use a solvent which, according to its hydrophobic properties, is intermediate between ether and pentane. Since the coeff. of distribution of the acid between such a solvent and water is smaller (as compared with ether and water) the amt. of the solvent must be increased. From the weak exts. obtained (low in water) it is possible to obtain 98–100% AcOH by distg. off the solvent.

W. R. Henn

A50 51A METALLURGICAL LITERATURE CLASSIFICATION



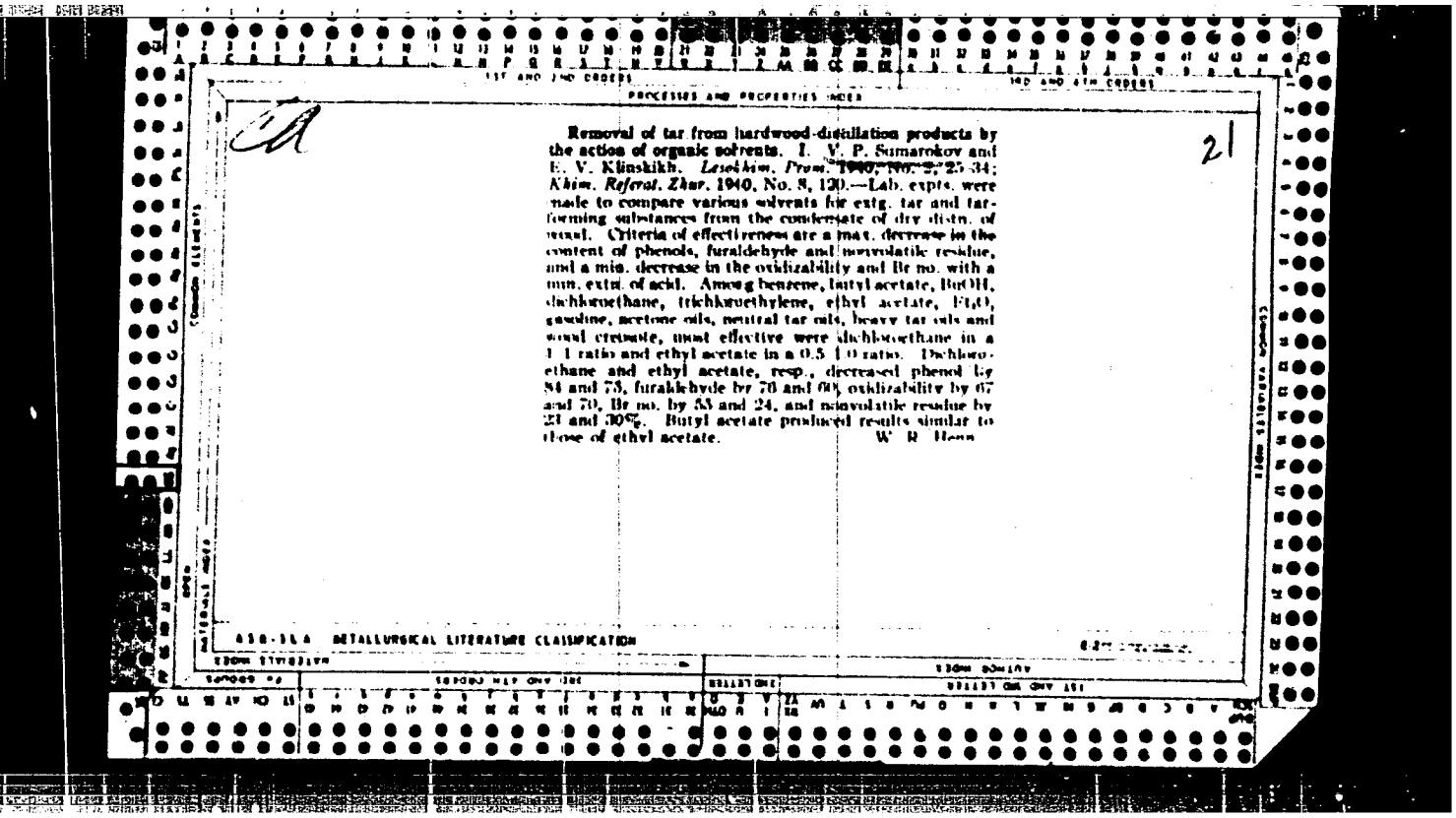
Phenols from waste products of acetic acid manufacture V. P. Sumarokov and Z. M. Vishnetskaya *Lesokhim. Prom.* 1939, No. 5, 29-32; *Khim. Referat. Zhur.* 1939, No. 12, 103.—From the oils in the decolorizer and in the oil settlers were sepd., resp., 12.2 and 19.1% of crude phenols on the wt. of the oils. By distn. in vacuo at 25 mm. a 100-120° fraction was obtained (which corresponds to the 200-20° fraction at normal pressure) in amts. equal to 40.9 and 44.2% of the crude phenol. The phenols obtained belong mainly to the ethers of the pyrocatechol series and to the highest homologs of monohydric phenol.
W. R. Henn



PROCESSES AND PROPERTIES INDEX

The composition of the ester fraction of wood alcohol solvents. V. P. Samarokov and A. I. Zarakovskaya. *Lesokhim. Prom.* 1939, No. 7, 31-5; *Khim. Referat. Zhur.* 1939, No. 12, 102.—The ester fraction of wood alcohol solvents is usually calcd. to methyl acetate. The solvents EDM, AMA and MATs contain, beside methyl acetate, methyl formate and methyl propionate. The content of methyl formate in EDM is up to 6% (in the other solvents it is 0.3-0.53) and of methyl propionate 5.5% (in other solvents 1.2-6%). W. R. Henn

ASB-ELA METALLURGICAL LITERATURE CLASSIFICATION

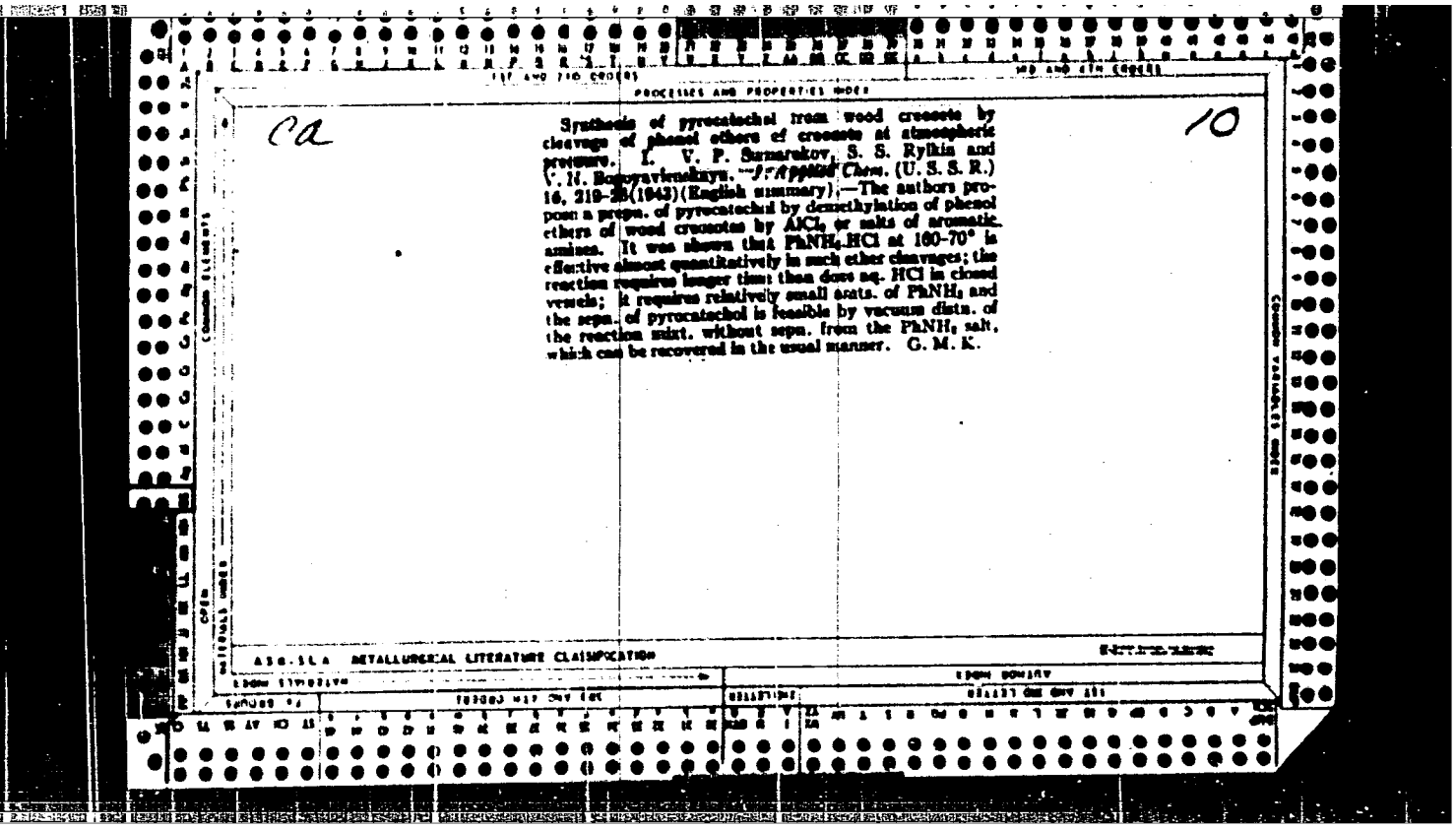


PROCESSES AND PROPERTIES INDEX

21

Removal of tar from hardwood-distillation products by the action of organic solvents. I. V. P. Sumarokov and E. V. Klinskikh. *Lesokhim. Prom.* 1940, No. 2, 25-34; *Khim. Referat. Zhur.* 1940, No. 8, 120.—Lab. expts. were made to compare various solvents for extg. tar and tar-forming substances from the condensate of dry distn. of wood. Criteria of effectiveness are a max. decrease in the content of phenols, furaldehyde and nonvolatile residue, and a min. decrease in the oxidizability and Br no. with a min. extn. of acid. Among benzene, butyl acetate, BuOH, dichloroethane, trichloroethylene, ethyl acetate, Et$_2$O, gasoline, acetone oils, neutral tar oils, heavy tar oils and wood creosote, most effective were dichloroethane in a 1:1 ratio and ethyl acetate in a 0.5:1.0 ratio. Dichloroethane and ethyl acetate, resp., decreased phenol by 84 and 75, furaldehyde by 70 and 68, oxidizability by 67 and 70, Br no. by 55 and 24, and nonvolatile residue by 21 and 30%. Butyl acetate produced results similar to those of ethyl acetate. W. R. Henn

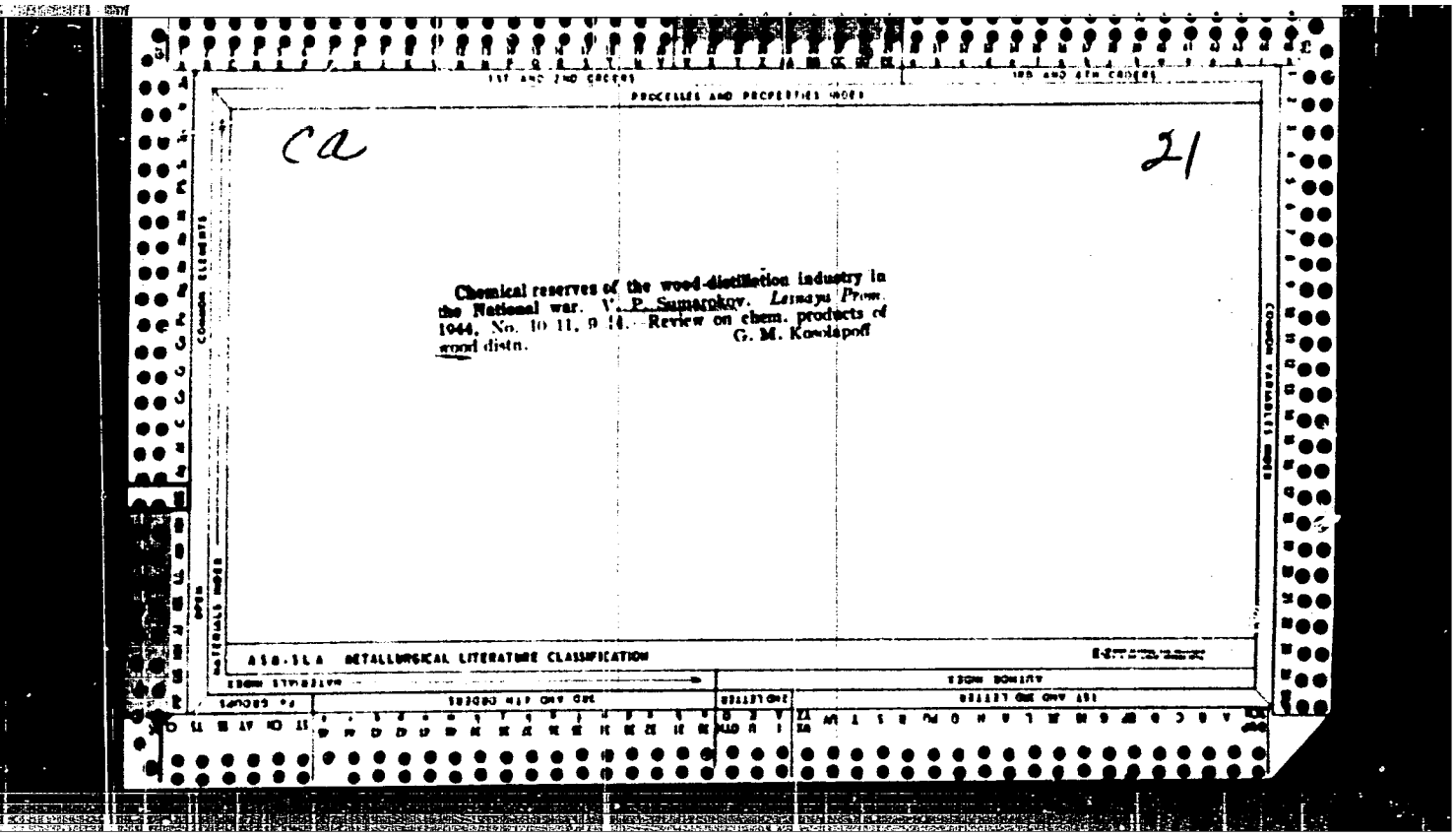
A58-31A METALLURGICAL LITERATURE CLASSIFICATION



Ca

10

Synthesis of pyrocatechol from wood creosote by cleavage of phenol ethers of creosote at atmospheric pressure. I. V. P. Samarukov, S. S. Rylkin and V. N. Bogoyavlenskaya. *Zhur. Prikladnoi Khim.* (U. S. S. R.) 16, 219-28(1943)(English summary).—The authors propose a prepn. of pyrocatechol by demethylation of phenol ethers of wood creosotes by $AlCl_3$ or salts of aromatic amines. It was shown that $PhNH_2.HCl$ at 160-70° is effective almost quantitatively in such ether cleavages; the reaction requires longer time than does aq. HCl in closed vessels; it requires relatively small amts. of $PhNH_2$ and the sepn. of pyrocatechol is feasible by vacuum dists. of the reaction mixt. without sepn. from the $PhNH_2$ salt, which can be recovered in the usual manner. G. M. K.



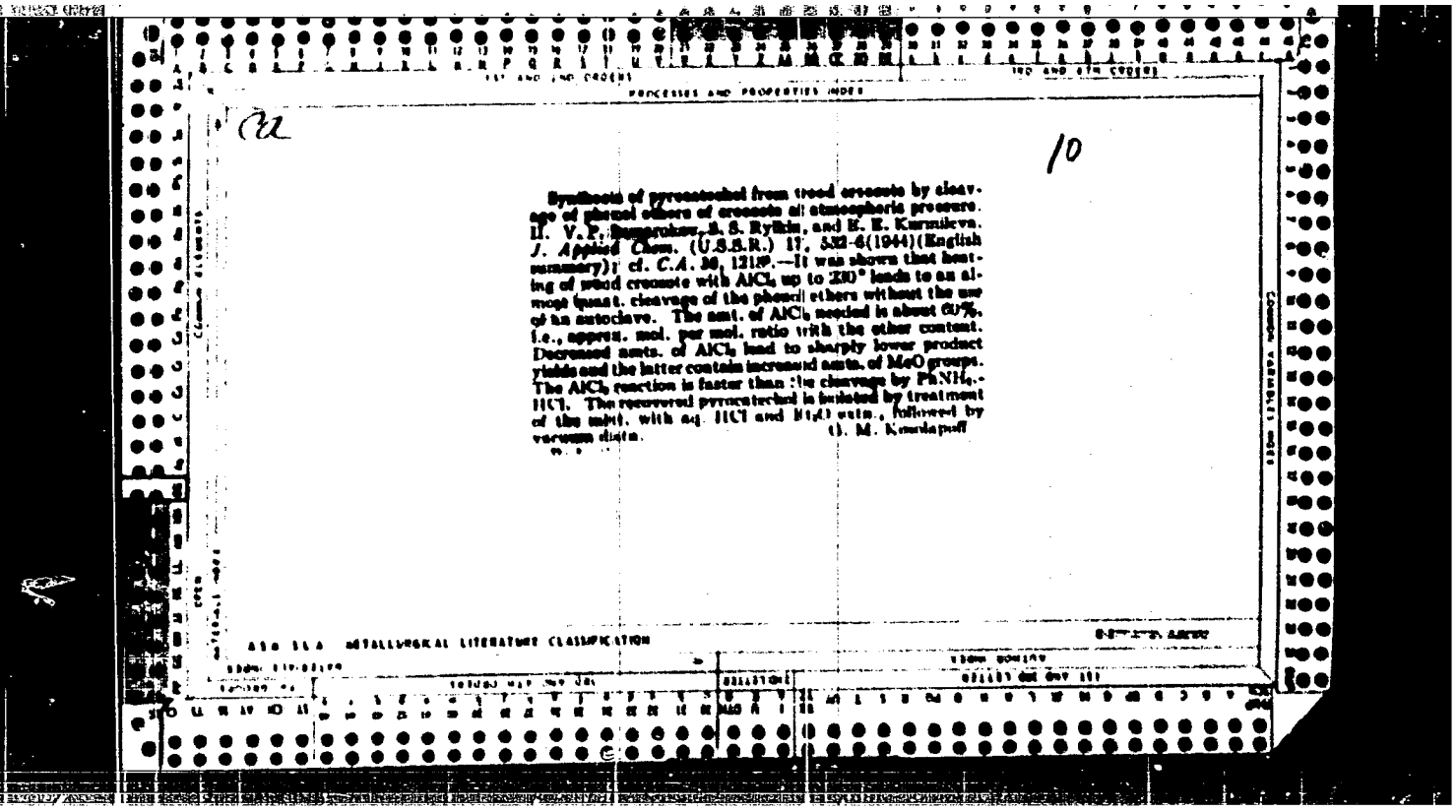
ca

21

Chemical reserves of the wood-distillation industry in the National war. V. P. Sumarokov. *Lesnaya Prom.* 1944, No. 10-11, 9-16.—Review on chem. products of wood distn.

G. M. Kosolapoff

A50-51A METALLURGICAL LITERATURE CLASSIFICATION



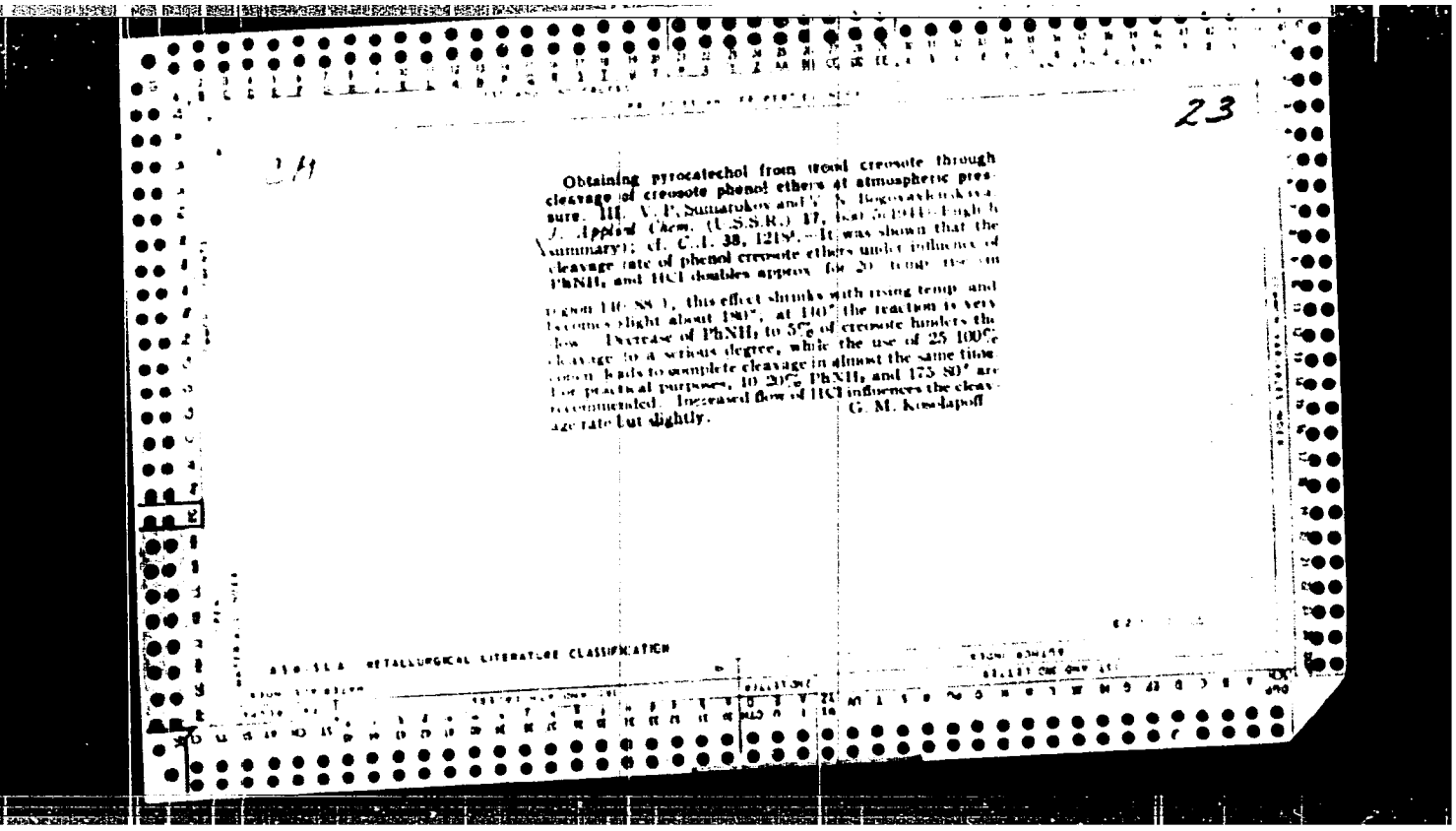
PROCESSES AND PROPERTIES INDEX

10

Synthesis of pyrocatechol from wood creosote by cleavage of phenol ethers of creosote at atmospheric pressure. II. V. P. Dunaevskaya, A. S. Rylkin, and E. E. Karmileva. *J. Applied Chem.* (U.S.S.R.) 17, 532-6(1944)(English summary); cf. *C.A.* 38, 1219.—It was shown that heating of wood creosote with $AlCl_3$ up to 230° leads to an almost quant. cleavage of the phenol ethers without the use of an autoclave. The amt. of $AlCl_3$ needed is about 60%, i.e., approx. mol. per mol. ratio with the ether content. Decreased amts. of $AlCl_3$ lead to sharply lower product yields and the latter contain increased amts. of MeO groups. The $AlCl_3$ reaction is faster than the cleavage by $PhNH_2 \cdot HCl$. The recovered pyrocatechol is isolated by treatment of the melt with aq. HCl and H_2O extn., followed by vacuum distn.

G. M. Kosolapoff

ASTIA METALLURGICAL LITERATURE CLASSIFICATION



23

Obtaining pyrocatechol from wood creosote through cleavage of creosote phenol ethers at atmospheric pressure. III. V. P. Samarukov and [illegible]. J. Applied Chem. (U.S.S.R.) 17, [illegible] (English summary); cf. C.A. 38, 1219.—It was shown that the cleavage rate of phenol creosote ethers under influence of $PhNH_2$ and HCl doubles approx. for 20° [illegible] region 110–80°), this effect shrinks with rising temp. and becomes slight about 180°; at 110° the reaction is very slow. Increase of $PhNH_2$ to 5% of creosote hinders the cleavage to a serious degree, while the use of 25 100% excess leads to complete cleavage in almost the same time. For practical purposes, 10–20% $PhNH_2$ and 175–80° are recommended. Increased flow of HCl influences the cleavage rate but slightly.

G. M. Kosolapoff

A10-51A METALLURGICAL LITERATURE CLASSIFICATION

[redacted], V. P.

See: ZARAKOVSKAYA, A. I., and KLINSKIKH, N. V.

Zumarekov, V. P., Zarakovskaya, A. I., and Klinskikh, N. V.
"The determination of lower aliphatic alcohols in the presence of ethers and other organic compounds by the Nimmer method",
(Report), Sootsh. o nauch. rabotakh chlenov Vsesoyuz. khim. o-va im. Mend-leyeva, 1949, Issue 1, p. 18-19.

SO: U-4630, 16 Sept. 53, (Letopis 'Zhurnal 'nykh Statey, No. 23, 1949).

CA

2

Distribution of methyl alcohol in some two-phase systems. V. P. Samarchuk, and E. V. Kimakh. *Zhur. Prikład. Khim.* 17, Applied Chem.) 22, 1067 (1949). The ratio r of the mol. concns. of MeOH distributed between H_2O and Et$_2$O at 20°, starting from aq. solns. of 0.8, 1.6, 3.2, 6.4, 12.8, 19.2, 25.6 g. MeOH (100 ml., was detd. to be 10.5, 5.86, 5.20, 4.60, 4.03, 2.77, 2.24, resp. Between H_2O and AcOEt, at 20°, r = [illegible] 0.20, 13.60, 8.28, 2.21, 1.40. Between H_2O and AcOBu, at 20°, initial concn. of the aq. soln., 7.14, 9.78, 13.63, 21.31, 29.85 g. MeOH/100 ml., r = 105.0, 80.5, 40.0, 21.2, 8.35. Significant extn. of MeOH (i.e. extn. beyond 10%) from H_2O takes place, with Et$_2$O, at a MeOH concn. not less than 1.6, with AcOEt at not less than 12.8, and with AcOH at not less than 25.8 g. MeOH/100 ml. Above these concns., r varies nearly linearly with the concn. of the initial aq. soln. N. Thon

CA

2

Distribution of acetic acid between water and some organic solvents. V. P. Samarskaya and K. V. Klimakhin. *Zhur. Prikhd. Khim.* (J. Applied Chem.) 23, 641-9 (1950).—The distribution coeff. $d = c_1/c_2$, where c_1 and c_2 are the concns. of AcOH in H_2O and in the org. solvent, was detd. in 30-min. expts. at 25°; results were the same when the expg. funnel was kept longer, up to 1-2 hrs. With EtOAc as solvent, at the total concns. $c = c_1 + c_2$ (practically equal to the initial concn. of AcOH in H_2O) —0.2, 1.0, 3.0, 5.0 *N*, d = 1.630, 1.180, 0.988, 0.886, i.e. d falls with increasing c up to about 2 *N*, then remains const. With BuOAc, c = 0.2, 1.0, 3.0, 5.0, d = 2.710, 2.126, 2.110, 1.811, i.e. d falls regularly with increasing c. With $EtCO_2Et$, c = 0.2, 1.0, 3.0, 5.0, d = 2.481, 2.060, 1.765, 1.236, i.e. falling. With $PrCO_2Et$, at the same c, d = 3.197, 2.699, 2.333, 1.969. Addn. of EtOH to EtOAc improves the extg. capacity for AcOH from H_2O at least at lower c; thus, with EtOAc 90% + EtOH 10%, c = 0.2, 1.0, 3.0, 5.0, d = 1.041, 0.984, 0.891, 0.850. In order to ensure a high extg. ability of the tech. EtOAc, it is necessary to free it as far as possible from esters of higher fatty acids. N. Thon

USSR/Chemistry - Propionic Acid Aug 52

"The Derivation of Pure Propionic Acid From the Waste Products of the Production of Acetic Acid From Wood," V. P. Sumarokov, Z. M. Volodutskaya, Cen Sci Res Inst of Wood Chem

"Zhur Prik Khim" Vol 25, No 8, pp 860-866

PI 228T10

The waste products resulting from the concn of wood acetic acid by the azeotropic method offer raw material contg a significant portion of propionic acid, which can be extracted therefrom in its pure form, the article states. The initial redistn of the waste products results in a clear sepn of propionic and acetic acids, both in concd form. The yield of acetic acid is about 52%, and that of propionic acid about 15% of the entire charge. According to the article, the best results, both in quality and yield of propionic acid, came from treatment with 1% H_2SO_4 , followed by redisn. Beechwood was distd to obtain the acids.

228T10

SUMAROKOV, V. P.

SUMAROKOV, V.P.; TULYAKOV, B.V., redaktor; AGAPOV, F.F., tekhnicheskiy redaktor

[Chemistry and the technology of processing wood tars] Khimiia i tekhnologiia pererabotki drevesnykh smol. Moskva, Goslesbumizdat, 1953. 234 p. (MLRA 7:9)
(Wood tar)

SLIVKOKOV, V. P. ; VOLODUTSKAYA, Z. M.

Wood Distillation

Extracting propionic acid, Der. i lesokhim. prom. 1 No. 7, 1953

Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

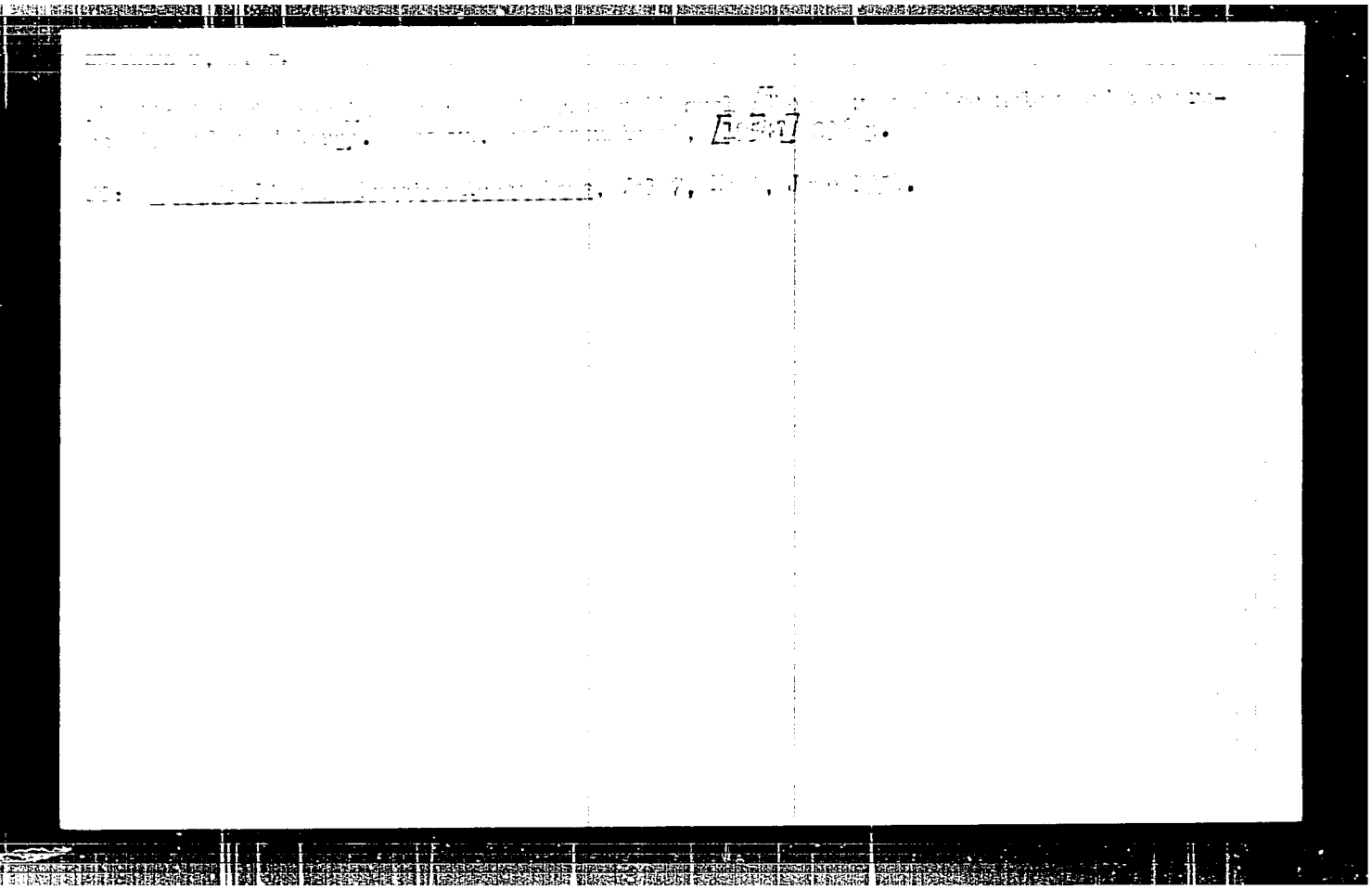
SUMAROKOV, V.P.; VOLODUTSKAYA, Z.M.

Use of beech-wood distillation products as entrainer in the fortifocation of acetic acid. Derevoperersbatyvayushchaya i Lesokhim. Prom. 2, No.2, 12-15 '53. (MLRA 6:2)
(CA 47 no.19:10225 '53)

SUMAROKOV, V.P.; VOLODUTSKAYA, Z.M.

Extracting acetic acid from undistilled pyroligneous distillate. Der.i lesokhim. prom. 2 no.8:12-15 Ag '53. (MLRA 6:7)

1. TSentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut.
(Acetic acid) (Wood distillation)



SUMAROKOV, V.P.; VOLODUTSKAYA, Z.M.

Extraction of industrial furfural from furfural oils obtained by wood pyrolysis. Der.i lesokhim. prom. 3 no.2:10-12 F '54. (MLRA 7:1)

1. TSNIILKHI.

(Furfural)

SUMAROKOV, V.P., kandidat tekhnicheskikh nauk; CHISTOV, I.F.

About the textbook "Technology of wood chemistry production."
Der. i lesokhim.prom. 3 no.7:30 Jl '54. (MLRA 7:7)

1. Nauchnoyy sotrudnik TSentral'nogo nauchno-issledovatel'skogo lesokhimicheskogo instituta (for Chistov)
(Wood—Chemistry)

SUMAROKOV, V. I.

USSR

Concentration of [illegible] by means of butyl acetate. Z. M. Volodutskaya, E. V. [illegible]. *Zavodskaya Lab.*, 3, No. 8, 13–18(1934).— Up to 92% of AcOH (in concn. of 75–85%) can be recovered from 8% aq. AcOH in a 23-plate bell-type column by azeotropic distn. with AcOBu. The concn. of the product is increased by increasing the temp. in the lower part of the column. H_2O removed contained 0.04–0.4% AcOH, and the concd. AcOH contained 1 to 5% AcOBu; this can be removed by distn. (cf. Othmer, *C.A.* 35, 5859).
Elisabeth Barabash

SUMAROKOV, V.P.; BORISOV, P.D.; VOLODUTSKAYA, Z.M.; GORCHAKOVA, Ye.V., SIVILLOVA, N.I.

Fortifying acetic acid by using butyl acetate under pilot plant conditions. Der. i lesokhim.prom. 3 no.8:19-20 Ag '54.(MLRA 7:8)

1. TSentral'nyy nuchno-issledovatel'skiy lesokhimicheskiy institut.
(Acetic acid)

Improving the quality of methyl acetone from the destructive distillation of wood. V. P. Samarekov and Z. M. Volodutskaya. *Derevoperera-batyvayushchaya i Lesokhim. Prom.* 3, No. 11, 10–12(1954).—Of methyl acetone contg. 29.6% esters (as MeOAc), 39.6% ketones (as Me_2CO), 22.62% MeOH, and 6.46% aldehydes (as AcH), and having acid no. 0.42, Br no. 2.79, and d_4^{20} 0.8644, 10% b. below 52°, 50% b. below 56°, and 90% b. below 75°. Fractions b. 21–50° (13.8%) and 50–62° (62.4%) had d_4^{20} 0.8592 and 0.8453, acid no. 5.73 and 0.06, and contained ketones 54.6 and 36.5%, esters 37.9 and 34.5%, and aldehydes 10.3 and 6.41%; 11.1, 1.6, and 6.8% of the original ketones, esters, and aldehydes were present in the still bottoms, and 12.3, 8.0, and 9.4% were lost. Methyl acetone was refluxed 1 hr. with 5% H_2SO_4 and sepd. into fractions, b. 41–50° (7.1%), b. 50–62° (56.8%), and b. 62–4° (10.2%), having d_4^{20} 0.8776, 0.8442, and 0.8343; acid no. 0.47, 0.24, and 29.0, and contg. 47.5, 42.7, and 31.5% ketones, 40.9, 36.8, and 8.2% esters, and 4.75, 4.1, and 0.17% aldehydes; the total losses of ketones, esters, and aldehydes (in the still bottoms and unaccounted for) were 22.1, 25.3, and 58.4%, resp. A mixt. of 688 g. of methyl acetone, 593 g. 98% HOAc, and 8 g. 72% H_2SO_4 was refluxed 1 hr., and the esterified mixt. sepd. into 3 fractions, b. 42–5° (35.0 g.), b. 50–62° (269 g.), and b. 62–9° (50.5 g.), d_4^{20} 0.8752, 0.8924, and 0.8652, acid no. 13.70, 3.46, and 16.6, and contg. 35.4, 28.9, and 55.1% ketones, 55.2, 66.5, and 14.1% esters, and 3.15, 1.40, and 0.04% aldehydes; the losses of ketones and aldehydes were 13.4 and 78.3%, resp.

John Lake Keays

Characterization of the organic part of industrial waste liquor from plants for dry-distillation of wood. V. P. Samarokov and M. G. Pershanova. *J. Appl. Chem. U.S.S.R.* 27, 617-21(1954)(Engl. translation).—See *C.A.* 48, 11758f.

B. M. R.

(1)

SUMAROKOV, V.P.; PERSHANOVA, M.G.

Properties of the organic part of industrial wastes from plants for the dry distillation of wood. Zhur.prikl.khim. 27 no.6:656-661 Je '54. (MLRA 7:8)

1. TSentral'nyy Nauchno-issledovatel'skiy lesokhimicheskiy institut.
(Factory and trade waste) (Wood distillation)

SUMAROKOV, V.P., kandidat tekhnicheskikh nauk

Rapid method of charcoal quenching. Gidroliz. i lesokhim prom. 8 no.2:30 '55. (MLRA 8:10)

(Charcoal)

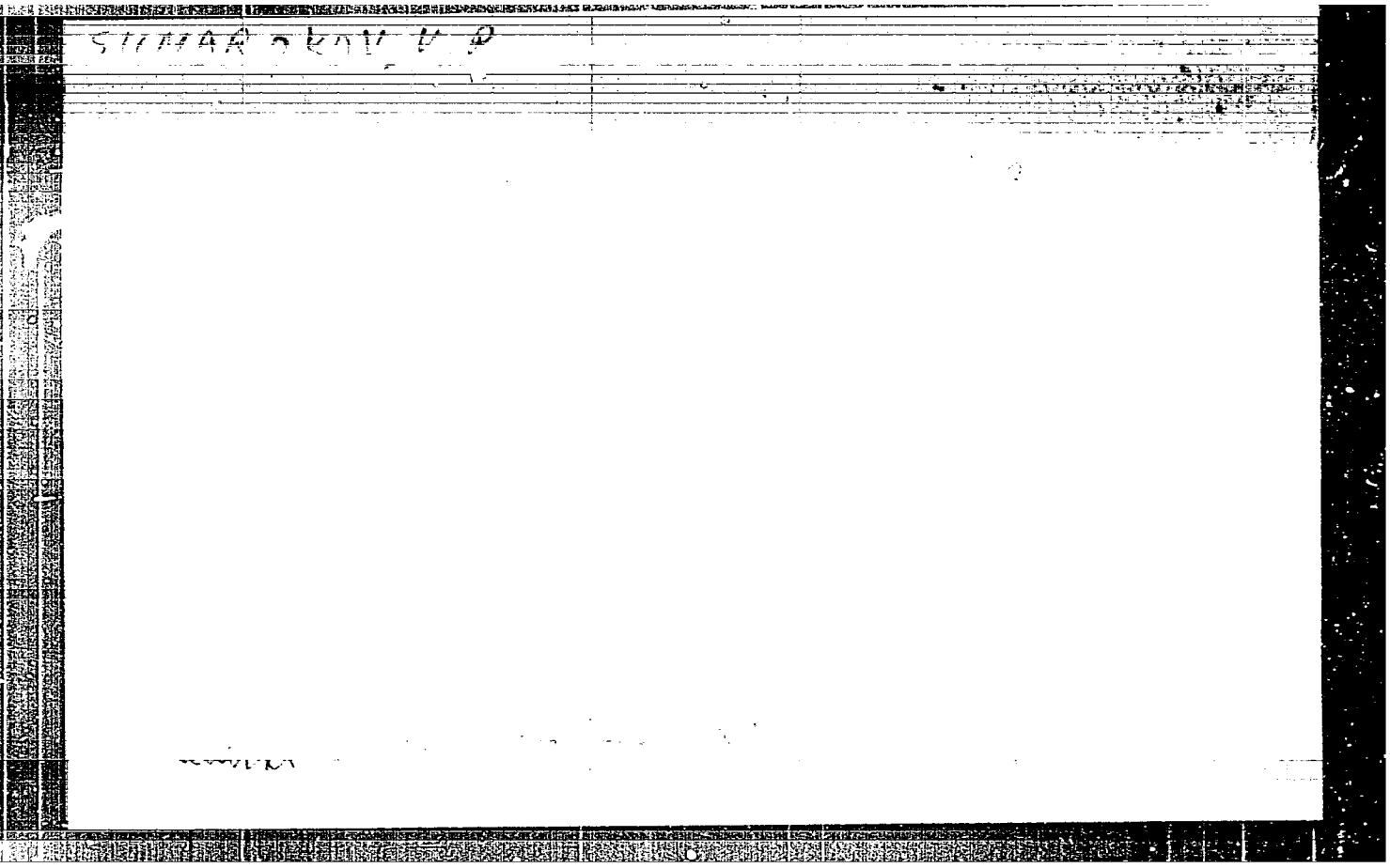
SUMAROKOV, V.P.

Oils distilled from wood alcohol and their use. Gidroliz. i lesokhim. prom. 8 no.3:6-8 '55. (MLRA 8:9)

1. TSentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut.
(Essences and essential oils) (Wood alcohol)

SUMAROKOV, Viktor Pavlovich; GORDON, Lev Vladimirovich; PLATUNOV, N.A., retsenzent; CHASHCHIN, A.M., retsenzent; SNESAREV, K.A., redaktor; FEDOROV, B.M., redaktor izdatel'stva; KARASIK, N.P., tekhnicheskiy redaktor

[Chemical and technical control in wood pulp production] Khimiko-tekhnicheskiy kontrol' lesokhimicheskikh proizvodstv. Moskva, Goslesbumizdat, 1956. 257 p. (MLRA 10:4)
(Woodpulp industry)



Sumarokov, V. P.

USSR/Physical Chemistry. Thermodynamics. Thermochemistry. B-8
Equilibria, Physical-Chemical Analysis, Phase Transitions.

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14713

Author : V. P. Sumarokov, Z. M. Volodutskaya
Inst :
Title : To the Characteristic of the Binary System Acetic Acid - Propionic Acid

Orig Pub: Zh. prikl. khimii, 1956, 29, No 5, 738-743

Abstract: The density (20°), refraction index (20°), viscosity (20 and 50°) and equilibrium composition of the liquid and vapor phases of the binary system CH_3COOH - C_2H_5COOH were studied. The curves plotted according to the experimental data show that this system is close to an ideal one; these curves have no maximum or minimum points, their curvature is very slight (especially that of the refraction index). The obtained data can be used for the determination of propionic acid contents in its mixture with acetic acid at the industrial checking of the

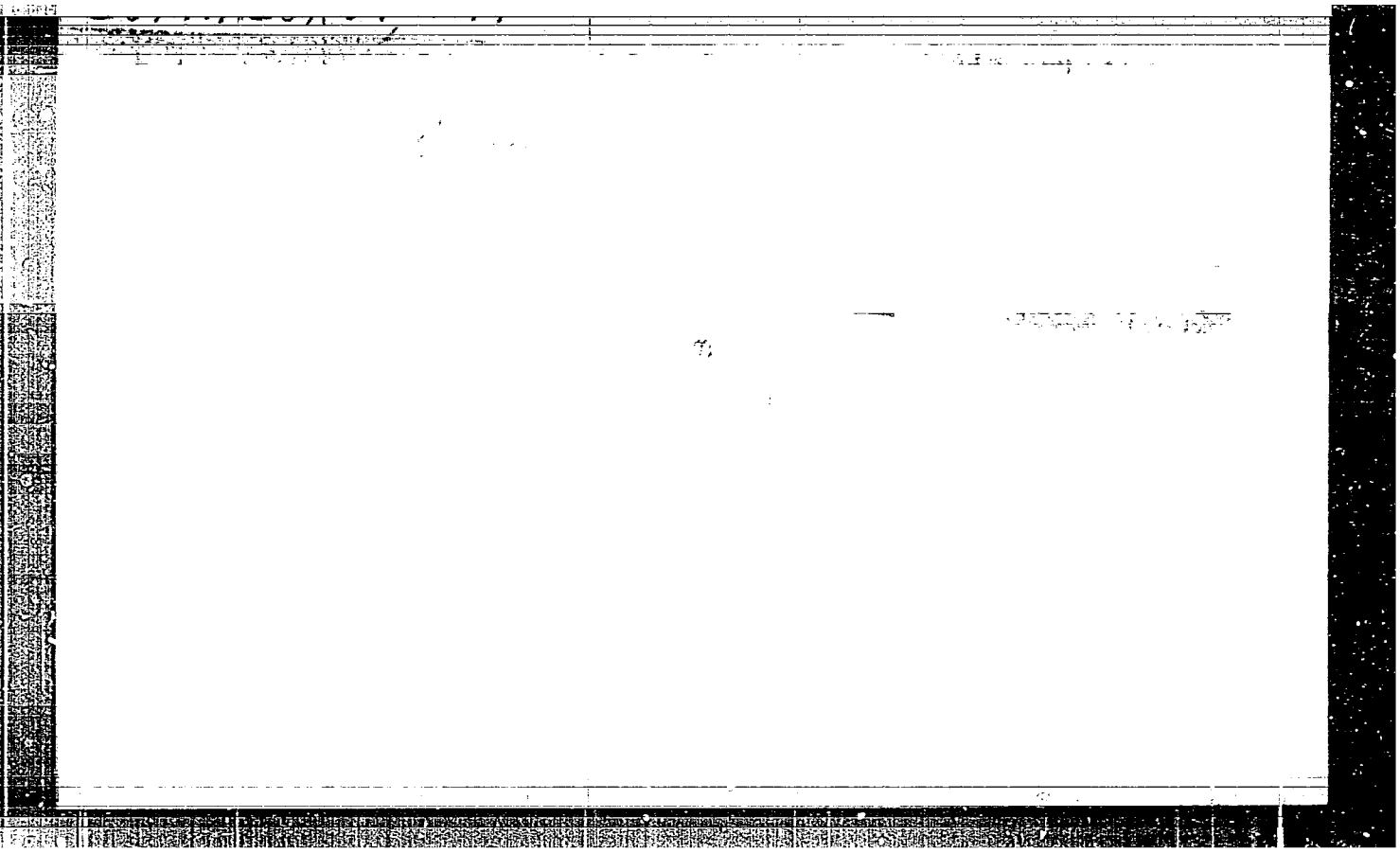
Card 1/2

USSR Physical Chemistry. Thermodynamics, Thermochemistry, B-8
Equilibria, Physical-Chemical Analysis, Phase Transitions.

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14713

Abstract: process of separation of these acids, as well as for the computation of the number of plates of rectification columns.

Card 2/2



SUMAROKOV, V.P.; VOLODUTSKAYA, Z.M.

Liquid - vapor equilibrium in the system acetic acid - ethyl acetate. Gidroliz. i lesokhim. prom. 10 no.6:12-13 '57. (MIRA 10:12)

1. Tsentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut.
(Acetic acid) (Ethyl acetate) (Phase rule and equilibrium)

SUMAROKOV, V.P.

Fundamental results of the study of the composition and utilization of tars from the pyrolysis and gasification of wood. Gidrolis. i lesokhim. prom. 10 no.7:21-24 '57. (MIRA 10:12)

1.TSentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut.
(Wood tar)

SUMAROKOV, V.P.

Investigations of the Central Wood-Chemical Scientific Research Institute in the field of the production of acetic acid from wood (1932-1957). Sbor.trud. TSNILKHI no.12:13-25 '57. (MIRA 13:10)
(Acetic acid) (Wood--Chemistry)

SUMAROKOV, V.P.

Studies in the separation of pyrocatechol from wood tars. Sbor. trud. TSNILKHI no.12:86-103 '57. (MIRA 13:10)
(Pyrocatechol) (Wood tar)

SUMAROKOV, V.P.; VOLODUTSKAYA, Z.M.

Separating concentrated propionic acid crude pyrokigneous acid. Gidroliz. i lesokhim. prom. 11 no.1:19-20 '58. (MIRA 11:2)

1.TSentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut.
(Propionic acid) (Pyroligneous acid)

SUMAROKOV, V.P.; VOLODUTSKAYA, Z.M.

Using pulsation for the recovery of acetic acid from the distillates of wood pyrolysis. Gidroliz. i lesokhim.prom. 11 no.8:6-8 '58. (MIRA 11:12)

1. TSentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut. (Wood distillation) (Acetic acid)

SUMAROKOV, Viktor Pavlovich; TERENT'YEVA, Valentina Vasil'yevna; GORDON, L.V., red.; BRATISHKO, L.V., tekhn.red.

[Waste water of the woodpulp industry and their purification] Stochnye vody lesokhimicheskikh predpriiatii i ikh ochistka. Khimki, TSentr.nauchno-issl.lesokhim.in-t, 1959. 27 p. (MIRA 13:12)

(Sewage--Purification) (Woodpulp industry)

SUMAROKOV, V.P.; VOLODUTSKAYA, Z.M.

Accuracy of different procedure for determining the content of the ester in industrial ethyl acetate. Gidroliz. i lesokhim prom. 12 no.7:12-13 '59 (MIRA 13:3)

1. Tsentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut.
(Ethyl acetate)

SUMAROKOV, V.P., kand.tekhn.nauk; TERENT'YEVA, V.V., inzh.

Purification of sewage waters in wood chemicals enterprises.
[Trudy] NTO bum.i der.prom. no.8:278-298 '59. (MIRA 16:2)
(Sewage--Purification) (Chemical industries)

SUMAROKOV, V.P.; GUSAKOV, V.N.; KURDYUMOV, V.A.; VOLODUTSKAYA, Z.M.

Extraction of acetic acid by wood-tar oils from vapor and gas products obtained in a vertical gas-circulating retort. Sbor. trud. TSNILKHI no.13:46-59 '59. (MIRA 13:10)
(Acetic acid) (Wood--Chemistry)

ALFEROVA, L.A., kand.tekhn.nauk; SUMAROKOV, V.P., kand.tekhn.nauk; EL'KIN, D.I., kand.ekon.nauk

Recovery of low-molecular acids C_1-C_4 from the wastes of synthetic fatty acid manufacture. Masl.shir.prom. 25 no.1:28-31 '59. (MIRA 12:1)

1. TSentral'nyy nauchno-issledovatel'skiy lesotekhnicheskiy institut.

(Acids)

SUMAROKOV, Viktor Pavlovich; VOLODUTSKAYA, Zinaida Mikhaylovna; VYSOTSKAYA, Varvara Afanas'yevna; KLINSKIKH, Yevgeniya Vasil'yevna; KHOVANSKAYA, A.P., red.; VOLOKHONSKAYA, L.V., red.izd-va; BACHURINA, A.M., tekhn.red.

[Methods for the analysis of products of pyrogenic wood processing] Metody analiza produktov pirogeneticheskoi pererabotki drevesiny. Moskva, Goslesbumizdat, 1960. 251 p. (MIRA 14:1)

1. Tsentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut (for Sumarokov, Volodutskaya, Vysotskaya, Klinskikh).
(Wood--Chemistry)

SUMAROKOV, V.P.; VOLODUTSKAYA, Z.M.

Selective extraction of furfural from aqueous distillates of wood pyrolysis. Gidrolix.i lesokhim.prom. 13 no.5:7-9 '60. (MIRA 13:7)

1. TSentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut.
(Furaldehyde) (Wood distillation)

SNESAREV, Kirill Andreyevich; ZARAKOVSKAYA, Anna Iosifovna; VOROB'YEVA, Mariya Trofimovna; SUMAROKOV, V.P., red.; IOFINOVA, TS.B., red. izd-va; PARAKHINA, N.L., tekhn.red.

[Metrological principles of the analytical control of chemical industries] Metrologicheskie osnovy analiticheskogo kontrolia khimicheskikh proizvodstv. Moskva, Goslesbumizdat, 1960. 205 p. (MIRA 13:9)

1. TSentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut (for Sumarokov).
(Chemistry, Analytic--Quantitative)

S/080/60/033/04/27/045

AUTHORS: Sumarokov, V.P., Volodutskaya, Z.M.

TITLE: On the Distribution of Furfurole Between Water and Some Organic Solvents

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 4, pp 910 - 914

TEXT: The distribution of furfurole in two-phase systems of water and an organic solvent was investigated for various furfurole concentrations. Diisopropyl ether, diethyl ether, benzene and ethyl acetate were used as solvents. The furfurole concentration varied from 6 to 72 g/l of the initial aqueous solution. The equilibrium concentrations for all systems investigated are represented by steeply ascending curves. The distribution coefficients are not constant values, but increase with the furfurole concentration in the initial aqueous solution. The sharpest changes in distribution were observed in the ethyl acetate-water system and at low concentrations (up to 0.5 g-mol/l.) It was shown that for extracting furfurole from aqueous solutions by the solvents tested only a small number of theoretical stages is needed. The lowest extractor height is needed in the case of ethyl acetate, the greatest with diisopropyl ether, the

Card 1/2

S/080/60/033/04/27/045

On the Distribution of Furfurole Between Water and Some Organic Solvents

other solvents hold intermediate positions.
There are: 2 graphs, 1 table and 3 references, 1 of which is Soviet, 1 English and 1 Canadian.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut (Central Scientific Research Wood-Chemical Institute)

SUBMITTED: October 21, 1959

Card 2/2

KORYAKIN, V.I., kand. tekhn. nauk; DOROGUTIN, B.S.; CHISTOV, I.F.; CHEREPANOVA, I.V.; DAVYDOVA, M.I.; SOROKOLETOVA, R.I.; MIKHEYEVA, L.V.; SHTANAGEY, V.G.; VOLKOVA, L.N.; SUMAROKOV, V.P., kand.tekhn. nauk, red.; KUZNETSOV, G.A., red.; ZAYTSEVA, L.A., tekhn. red.

[Technology of the production of wood chemicals; a manual for foremen, technicians, and engineers] Tekhnologiia proizvodstva lesokhimicheskikh produktov; posobie dlia masterov i inzhenerno-tekhnicheskikh rabotnikov. Moskva, Gos.izd-vo mestnoi promyshl. i khidozh. promyslov RSFSR, 1961. 383 p.
(MIRA 15:3)

(Wood--Chemistry)

SUMAROKOV, V.P.

It is time to review the standards for wood alcchol solvents.
Gidroliz. i lesokhim.prom. 14 no.3:8-9 '61. (MIRA 14:4)
(Methanol) (Solvents)

SUMAROKOV, V.P.

The life and work of Professor Leonid Petrovich Zherebov. Sbor. trud.TSNILKHI no.14:3-7 '61. (MIRA 16:4)
(Zherebov, Leonid Petrovich, 1863-1958)

SUMAROKOV, V.P.; KLINSKIKH, Ye.V.

Thermal stability of wood tar oils extracted from the tar of softwood species. Sbor.trud.TSNILKHI no.14:53-59 '61.
(MIRA 16:4)

(Tar oils--Testing) (Wood distillation)

SUMAROKOV, V.P.; VOLODUTSKAYA, Z.M.

Effect of technology of production on the composition of black acetic acid. Gidroliz. i lesokhim. prom. 14 no.5:6-8 '61. (MIRA 16:7)

1. TSentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut.

(Acetic acid)

SUMAROKOV, V.P.; VOLODUTSKAYA, Z.M.

Using organic solvents for the extraction of low molecular weight fatty acids C_1-C_4 from acid sewage wastes from the manufacture of synthetic fatty acids and fatty alcohols. Sbor.trud.TSNILKHI no.14:74-84 '61. (MIRA 16:4)
(Acids, Fatty) (Industrial wastes)

SUMAROKOV, V.P.; VOLODUTSKAYA, Z.M.

Complex esterification of tall oil acids with methyl alcohol.
Gidroliz.i lesokhim.prom. 15 no.8:12-14 '62. (MIRA 15:12)

1. Nauchno-issledovatel'skiy tekhnokhimicheskiy institut.
(Esterification) (Methyl alcohol)

FROLOV, Gennadiy Matveyevich; SUMARKOV, V.P., red.; FILIMONOVA, A.I., red.izd-va; GRECHISHCHEVA, V.I., tekhn. red.

[Acetic acid, its production and rectification] Uksusnaia kislota, ee proizvodstvo i rektifikatsiia. Izd.2., perer. Moskva, Goslesbumizdat, 1963. 209 p. (MIRA 17:3)

SUMAROKOV, V.P.; VOLODUTSKAYA, Z.M.

Complex esterification of tall-oil acids with n-butyl alcohol.
Gidroliz. i lesokhim. prom. 16 no.4:7-9 '63. (MIRA 16:7)

1. Nauchno-issledovatel'skiy tekhnokhimicheskiy institut.
(Esterification) (Tall oil)

SUMAROKOV, V.P.

Leonid Petrovich Zherebkov and his work on wood chemistry and chemical technology. Zhur.prikl.khim. 36 no.6:1372-1373 Je '63. (MIRA 16:8)
(Zherebkov, Leonid Petrovich, 1863-1958) (Wood--Chemistry)